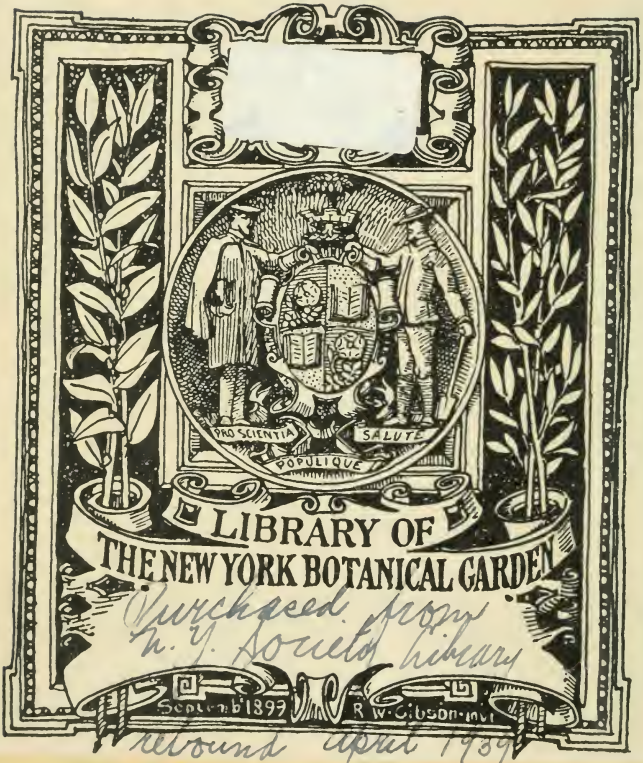
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THE

FARMER'S MAGAZINE:

A

PERIODICAL WORK,

EXCLUSIVELY DEVOTED TO

AGRICULTURE,

AND

RURAL AFFAIRS:

1804.

Ye gen'rous Britons, venerate the PLOUGH,
And o'er your hills, and long withdrawing vales,
Let Autumn spread her treasures to the Sun. THOMSON.

VOL. V.

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THE

FARMER'S MAGAZINE:

MONDAY, 6th FEBRUARY 1804.

(N°. XVII.)

BRANCH I.

ORIGINAL COMMUNICATIONS.

FOR THE FARMER'S MAGAZINE.

A short statement of various measures, calculated for the improvement of the County of Caithness, carried on in the course of the year 1803.

Introduction.

THE measures which were in contemplation, for promoting the prosperity of this remote district, have been considerably checked by the renewal of hostilities with France, which so unexpectedly took place at the commencement of this year. A state of war must, in general, be unfavourable to all sorts of improvement. The difficulty in obtaining capital to carry them on with spirit; the scarcity of hands, owing to the demands of the army and navy; and, in remote situations, the trouble attending the procuring seeds and other articles by sea, from distant parts of the country, and skilful labourers, where they are necessary for the introduction of any new system, are all hostile to active and great exertions. But if that was the case on former occasions, it is still more so at present, when we are threatened with all the horrors of conquest, by the most powerful state that has arisen in modern times; and when people in general, seem more inclined to consider what are the best means of preserving what they have got, than of acquiring more. It were much to be regretted, however, if such a spirit were to become general. If that should be the case, this country would soon become unable to persevere in so arduous a contest. The best foundation of its strength, is the cultivation and produce of its own soil, and if, in addition to the other calamities of war, we were to be under the necessity

of depending on foreign nations for any large proportion of our subsistence, at a time when our commerce must necessarily be considerably diminished, our wealth would quickly disappear, and our distresses would accumulate to a height which might produce the most disastrous consequences. This is a subject which, it is to be hoped, will soon attract the attention of parliament; and that some system will be adopted for the purpose of furnishing the landed and the farming interests, with the means of carrying on the cultivation and improvement of the country, if possible with greater energy than ever, as the best mode of enabling us to prosecute the present war, with additional spirit and success.

In addition to the calamities of war, the last season also, was, on the whole, highly unfavourable to agricultural improvements. The spring and the beginning of summer were cold and ungenial; and though the months of July and August were dry, and consequently well calculated for the operation of burning, yet from the want of rain at that critical period of the season, the crop of this year has but little straw, and though the quality of the grain is wholesome, yet it is hardly equal in quantity to the average produce of Caithness. This is the more to be lamented, as the preceding crop turned out a worse one than any remembered in that county for some years.

1. *Improvements of Wastes.*

This most important object was carried on to a considerable extent, during the year 1803; preparations having been made for that purpose, previous to the war breaking out. The dryness of the summer was favourable to burning, a species of improvement of important consideration. On the whole, in the course of the last season, probably *above a thousand acres* might be put in a progressive state of cultivation, of which about 430 were in the hands of one proprietor.

The best system of improving commons, that have a good depth of soil, with a rough surface, and that is capable of being burnt, is now pretty well ascertained, in so far as regards this northern district. The land should be ploughed in the winter months, cross-ploughed in spring (that the clods may not be crumbled to pieces by the winter frosts), and burnt in summer; the ashes then spread, and ploughed in; and early next year, after being well harrowed, should be sown with oats and grass-seeds. In a better climate, the burning may take place earlier, and oats or bear may be sown the first year; and where sheep are abundant, a crop of turnips may be taken, but, on the whole, the plan above mentioned, is the best that has hitherto been attempted in this district, and though

though slow, yet, being done gradually, requires few cattle and servants, and is sure of success. There is no other mode by which many thousand acres of waste land in this county could possibly be brought in, with nearly the same advantage. To give such a land a sufficient doze of lime, would require from 5 l. to 10 l. per acre, according to the distance of conveyance; whereas, by this system, the expence does not exceed from 2 l. to 3 l. per acre; and the first crop of oats alone will pay the whole expence of the improvement, including the inclosure.

2. *Paring and Burning.*

Several skilful hands were brought from Westmoreland this year, in order to carry on the system of paring with the breast-plough, and then burning the turf thus obtained. In all, about 100 acres were treated according to this plan. From the thinness of the turfs, several acres of land thus prepared, might have been burnt, and laid down with oats in the course even of this year; but unfortunately the men were detained at Leith for about three weeks, waiting for a conveyance by sea to Caithness, and consequently were too late in coming. Little do those who live in the southern part of the kingdom know the disadvantages under which their northern brethren endeavour to rival them in improvement. About 50 of these acres were pared and burnt, with a view of providing for some small farmers, whom it was necessary to remove, in order to complete the cultivation and inclosure of an extensive tract of country in the neighbourhood. These farmers are continued in their old possessions till Whitsunday next, when they remove to their new farms. The 50 acres is to be cropped by the proprietor, which will entitle them to the benefit of the straw; and some acres are also to be laid down with grass-seeds for them. They are also to have about 50 acres of valuable pasture, adjoining to their arable land. Their lease is for 15 years. The rent is sufficiently moderate, namely, 3s. per acre for the first five years, 6s. for the second five, and 9s. for the third five, and half as much for the pasture land. But though the rent is low, yet that is compensated by the satisfaction of establishing a new colony of farmers, on a barren waste, on a system that is likely to encourage their exertions, and which, at any rate, will necessarily promote the improvement of that part of the country.

3. *Fen Husbandry.*

It was of the greatest importance to try the fen system of husbandry, near the sheep farms established in this county,

with a view of raising winter provision for that valuable stock. Unfortunately, however, there was no flat or low-lying mossy ground in that neighbourhood. It was necessary, therefore, to plough the sides of hills, considerably elevated above the level of the sea. The seasons of late having been peculiarly unfavourable for this important species of improvement, its progress has been greatly retarded; but, on the whole, the prospect of success is at present flattering. About 60 acres have been laid down with rape, turnip, and grass-seeds, and the appearances of these crops are promising. A hardy species of grass, peculiarly adapted for mossy land, has been brought from the fens of Cambridgeshire, and it is proposed to try a long small white oat, from the neighbourhood of Whittlesea-Mere, in Huntingdonshire: which, from its hardiness and earliness, will, it is believed, succeed. Next season will certainly decide to what extent this system ought to be prosecuted in a hilly district. In a flat country, abounding with deep bogs, or mosses, there can be no doubt of its being infinitely preferable to every other.

4. *Commons.*

An extensive common having been divided not far from the town of Thurso, a considerable part of which, though rather elevated in point of situation, yet was capable of cultivation; one of the proprietors, whose share amounted to above 2000 English acres, was anxious to try what could be effected for the improvement of so valuable a tract. The whole was, in the first place, divided into 50 lots, varying, in extent, from 12 to 20 acres, and upwards, according to circumstances, and the divisions marked by the plough, which was itself a troublesome business. Three modes of improvement were then adopted. 1. Some lots the proprietor himself undertook to improve, by paring and burning, in the manner already described, in order to provide settlements for some small tenants, to be removed in the neighbourhood. 2. Some lots were let to new improvers, who became bound to cultivate them at their own risk and expence; and, 3. A number of other lots were annexed to the neighbouring farms, under the obligation of improvement. Where this plan is practicable, it is certainly an excellent mode of improving commons, as a farmer has many advantages, which it is unnecessary here to point out, for bringing in, at a cheap rate, the waste lands in his vicinity. One spirited improver (Mr George Miller of Whitefield, near Thurso) deserves to be particularly commemorated upon this occasion. Observing the success of the new modes of improving waste lands, which had been introduced into the county,

ty, he offered a rent of L. 40 per annum, for 190 acres, in that part of the common which happened to be in his neighbourhood. The lease is rather long, namely, for 31 years; but it was desirable to encourage an active and judicious improver, who began ploughing his new farm almost before the ink was dry upon his lease; and though the land was intrinsically valuable, yet this was the first instance, in that part of the kingdom, of drawing such a rent from a tract of land that formerly had yielded nothing.

5. *Sheep Farming.*

It was generally believed that Caithness was but ill adapted for a sheep stock; and when not only sheep were introduced into the Highland parts of the county, but also so superior a breed as the Cheviot, it was foretold, both in the southern, and in the northern parts of Scotland, that the plan could never answer, and that it would necessarily be attended with considerable loss. The attempt, however, has been most successfully carried on for several years; and, with a view of ascertaining the practical effects of the experiment, the grazings that were put under sheep, were advertised to be let. The commencement of a war is certainly an unfavourable time for letting land, more especially at such a distance from the metropolis; but the success of the sheep system, in those parts, was so uncontrovertibly established, that some of these grazings, which ten years ago had only paid L. 87, 16 s. a year, were let at L. 600 per annum; and, in the opinion of intelligent men, were worth L. 100 more. It was thought adviseable, however, to give peculiar encouragement to the first farmer (Mr James Anderson), who resolved to carry on a new system, on so extensive a scale, in so remote a district; more especially, as he was likely to do ample justice to the plan. A higher rent will be obtained for the other grazings still to let in the same neighbourhood; and, on the whole, there is reason to believe that no agricultural improvement has hitherto been made, with more profitable results; a tract of country having been thus raised from a rent under L. 200, to above L. 1200 per annum.

It is earnestly requested, that Highland proprietors, more especially those with moderate incomes, will make themselves masters of a plan, which experience has thus sanctioned; and by which, at a moderate expence, they will not only render themselves and their families opulent, but will likewise greatly promote the industry, and increase the wealth of their country.

Cattle.

6. The introduction of the best breeds of cattle into a district, according to the various purposes for which they are destined, is a most important mean of improvement, which cannot be too anxiously attended to. Several experiments, with that view, have been tried in Caithness, in the course of this season: among the rest, Col. Williamson has introduced the Argyll breed, which there is every reason to hope will answer. Mr Paterson has brought some oxen from Aberdeenshire for ploughing, and some cows from Buchan have been sent north, of a sort, considering their size, famous for the quantity of milk they produce *. It is proposed to compare this breed, with the Ayrshire Cows, so celebrated for the Dairy, some of which have been brought by Mr Dunlop to the neighbouring district of Strathnaver.

7. *Improvements by small Tenants.*

It is certainly desirable, to preserve as much as is consistent with the improvement of a district, its old inhabitants, who are attached to it by many ties, and who might not for some time feel themselves equally comfortable in other situations. It is difficult however to adhere to this principle, where

* The Buchan Cows are not so well known as they deserve to be. The best sort are polled, generally of a dark or brown colour. They commonly weigh, when fattened, from 17 to 18 stone, (16 pound Dutch weight to the stone). They are of so thriving a quality, that they are generally fat at the end of the Autumn, without much attention having been paid to their feed, and tho' fleshy, they continue to milk well. Tho' their size is small, they will give from 6 to 8, and even as high as 14 Scotch pints of milk per day, (equal to as many English quarts.) They are fed principally with Oat Straw in winter, which is found greatly preferable to bear or barley straw. Sometimes they also get what they call *pieced hay*, or hay with boiling water thrown on it. Some sea ware is also given them, which is very conducive to milking well; but above all they have a practice in the neighbourhood of Peterhead, of giving them green kail in April, which is sown in the spring preceding, transplanted in June or July, stands the winter season better than turnip, and vegetates very strong in April. By adopting this plan, the dreadful interval for the farmer, between the winter and summer feed, might in a great measure be filled up. In general from 10 to 12 Scotch pints or English quarts of their milk, give a pound of butter. They have made, near Peterhead, buttermilk cheese, but it answers better when the buttermilk is mixed with other milk.

where the tenants are poor in circumstances, have little skill in Agriculture, and have not even cattle or instruments of husbandry calculated for carrying on any proper system of cultivation. A plan however has been fallen upon, which tends in some measure to obviate these objections. Some small tenants have been prevailed upon to enter into an agreement with a considerable farmer in their neighbourhood, by which he engages to plough for them, the waste land attached to their farms, at the rate of fifteen shillings per Scotch acre, the price not to be exacted, until a twelve month after the work is executed, when they will be enabled to pay the expence from the crops they raise. The plan has been so much approved of, that the small tenants in one district, have had about 50 acres of waste land ploughed for them on this system, in the course of this season. Their own miserable cattle and instruments of husbandry, could never have broken up such a soil, but when once it is properly ploughed, they are able to manage it tolerably well by their own exertions; and in process of time, they will probably become more opulent, and abler to do justice to their farms.

8. *Towns and Villages.*

The increase of towns and villages, is one of the surest signs of the prosperity of a country; and in this important particular, the county of Caithness is not deficient. Several houses have been built this season in the new town of Thurso. The village of Castleton, erected by Mr Trail, goes on prosperously; and it is impossible to pass through that thriving place, without feeling much satisfaction, at the industry that seems to prevail there, and the contented looks, and comfortable circumstances of the inhabitants. A new village called Brodies-Town, from the name of its spirited founder, is rising on the eastern coast of the county, in a situation admirably calculated for the herring fishing. Some progress is making in the erection of a village at Halkirk, and it is expected, next year, that the British Fishing Society, will make some exertions, towards establishing a fishing settlement on the feu it has obtained from Sir Benjamin Dunbar in the neighbourhood of Wick.

9. *Roads and Harbours.*

The attention that has lately been paid to the improvement of the northern parts of Scotland, must do infinite credit to the legislature of this country, if the measures they have chalked out are prosecuted with proper zeal and energy. A foundation has thus been laid, for a new system, not of foreign,

but of domestic colonization, which will be found infinitely preferable to the cultivation of distant settlements. But the acts which were passed, granting certain sums for carrying on the Caledonian Canal, and for making roads and building bridges in the northern counties, under the direction of Commissioners appointed to oversee the expenditure of the money, were enacted too late in the season, to expect that much could be done in carrying on such great undertakings, in the course of the present year. In consequence, however, of the correspondence that has been established between the Commissioners, and the gentlemen of Caithness, there is reason to hope that considerable progress will be made in the course of the ensuing season. It cannot be doubted, if this district were made accessible, and proper communications carried through it, that it would soon rival more southern districts in every species of improvement.

It is proper here to add, that a thousand pounds have been granted, from the public funds of Scotland, for erecting a harbour at Wick; and there is every reason to hope, that that important undertaking will be carried on with proper spirit in the course of next year. As Wick is the true centre of the deep sea herring fishery, the erection of a harbour there, is perhaps one of the most important objects to which the public attention could be directed, or in which the public money could be employed.

10. *Miscellaneous Articles.*

1. The establishment of an Woollen Manufacture, at the new village of Halkirk, has taken place this year. The machinery has been already erected, and from the prices which Mr Walker the manufacturer has demanded, the farmers in the neighbourhood are satisfied, that they cannot manufacture their wool so cheap, by their own servants, as by him; whilst, at the same time, it is done by his machinery, in a manner greatly superior.

2. This year also a post chaise and a pair of horses have been set up by Mr Ryrie, innkeeper at Thurso, which is likely to answer. It is singular, though there had been some attempts to keep post chaises at Inverness, yet that they were all given up in the year 1773. Mr Ettles set one up in 1775; which was then the only one so far north. There are now seven kept in Inverness alone, one or two at Tain, and one at Kessock. It is proposed to have, next year, a diligence on the Highland road from Perth to Inverness, and it is to be hoped that, in due time, the plan will be extended to Caithness. The advantages of having such modes of conveyance from one end of the kingdom to the other are inestimable.

3. Mr

3. Mr John Reid of Heathfield near Thurso, laid down a small field of bear which he could not get sown till the 24th of June last: it was cut down on the 24th October, and produced upwards of ten returns of good merchantable grain. It would probably have produced two or three seeds more, had it been sown earlier; but this experiment tends to prove, that in very unfavourable seasons, a crop of bear may be laid down much later than is commonly imagined, and with the prospect of a handsome return.

4. A Limework is intended to be carried on on the estate of Major Innes of Sandside, which it is hoped will be a source of great improvement to all that neighbourhood.

Conclusion.

Some prejudices, it is said, are entertained against the publication of such accounts of local improvements, as if they originated from other motives, than a sincere and ardent wish to promote the prosperity and interests of the country. But how could it otherwise be known by the public, what is doing in so remote a district as Caithness, which is so seldom visited by strangers? and can it be questioned, whether these hints may not in various respects contribute to the benefit of other counties? Is it of no consequence that the success of the Cheviot breed of sheep, beyond the possibility of doubt, should be spread over all the Highland districts, and the way pointed out, by which the rent and value of that extensive tract of country, may in many cases be increased six-fold? Is it nothing to have facts authentically published, regarding the various modes of improving waste lands, by some of which, the expence of the improvement is repaid by the first crop that the ground produces? And is no benefit to be derived, from a knowledge of the success attending the introduction of new breeds of cattle, new sorts of grain, new kinds of grass, &c.? Above all, can it be doubted, that the country at large is interested, when new towns and villages are erected, and new manufactures and other improvements successfully carried on? Instead therefore of objecting to the publication of such accounts as unnecessary, which is all that can be urged, for it is impossible that any detriment can arise from them, it would be much better for public spirited individuals, to promote, as much as possible, the adoption of such a plan, in all the various districts in the kingdom; in order that experiments happily adopted in one county, may prove the source of similar improvements in other places.

Edinburgh, 25th Nov. 1803. *Appendix*

Appendix to the above Statement.

AMONG the numerous commons in the county of Caithness, the most extensive and valuable is known under various names, as the Hill of Forse, of Scrabster, &c. and in all it is supposed that this tract contains about 8000 acres, mostly green ground, and capable of cultivation. The necessary steps have been taken, for having this common divided by act of parliament; and a plan has been formed, connected therewith, which cannot fail to give satisfaction to every friend to the improvement. It is founded on certain resolutions adopted by the magistrates, and other inhabitants of the town of Thurso, of which the following is a copy:

AT a meeting of the Magistrates and Feuers of the town of Thurso, assembled to take into consideration the propriety of applying to parliament for a division of those commons called the Hills of Forse, Scrabster, Aust, Giese, Ormly, Thurso, Pennyland, Holburnhead, and Brims, and all the mosses, muirs, and other waste lands connected therewith,

The following Resolutions were adopted.

I. That it appears to this meeting, in many respects, extremely material, that such extensive commons, containing, it is supposed, about 8000 acres of land, by far the greater part of which is capable of improvement, should be brought into cultivation as speedily as possible.

II. That it is peculiarly desirable to bring forward such a plan at the present time, as the division of so extensive a tract may furnish the means of occupation and subsistence to numbers of persons in the Northern districts of the Highlands, who may otherwise be reduced to the most poignant distress, in consequence of their plans of emigration having been checked by legislative provisions, and no means of subsistence having been pointed out to them.

III. That in the course of the division, a portion of these commons will belong to the crown, as proprietor of the lands of Scrabster, there is reason to hope, from the great attention paid by his majesty's government to the situation of the Highlanders, that these allotments of waste lands, may be appropriated by the crown for so beneficial a purpose as that of forming new settlements for natives of the Highlands; and it being also probable, that government

may

may be desirous of making such settlements on a large and liberal scale, that it would be advisable to dispose the allotment of the waste lands that may belong to the town of Thurso (exclusive of the mosses) to the crown, at any fair price that may be fixed upon by the commissioners appointed by the act; and that the price received for the same, shall be employed in paving the streets, improving the harbour, and carrying on other public works, the most likely to be advantageous both to the town and neighbourhood.

IV. That were this plan carried into execution, three objects of great public importance would at once be accomplished; for it would have a tendency to promote the improvement of a town, situated in the remotest part of the kingdom; it would be the means of speedily bringing into cultivation an extensive tract of valuable land, now lying totally useless; and the hope of such a settlement would cheer the heart of many as brave and worthy subjects as any in his Majesty's dominions, whose prospects at this time are truly deplorable.

V. That a copy of these Resolutions, together with the sketch of a plan for making a royal colony at Scrabster, be transmitted to his Majesty's ministers, to the commissioners appointed by act of parliament for carrying on the roads and bridges throughout the Highlands, to the barons of his Majesty's exchequer, and to the officers of the crown in Scotland.

Sketch of a plan for establishing a *Royal Colony* at Scrabster, in the county of Caithness, on a tract of Common, which will be allotted to the Crown, together with some waste lands to be purchased in its neighbourhood.

Let us suppose that 3000 acres in all are employed in making the intended settlement, of which one half belongs to the crown, and the other half must be purchased.

It is proposed, on part of the land, near the burn, or water of Scrabster, to erect a village for labouring people, and to divide the remainder into small farms.

The village to consist of a hundred houses, each house to have, at an average, 3 acres of land attached to it, which would enable each settler to keep a cow, (of the breed of that country), summer and winter. It is supposed that this quantity of land, namely 3 acres, might be cultivated by means of that excellent instrument the *Caseroum*, (a kind of foot plough) which the Highlanders can manage with great dexterity, and which is too little known.

As

As the place is entirely a new settlement, and the settlers, with their families, must in general come from a considerable distance, they will require at least 10l. for each family, to assist them in building a house, inclosing their land, &c. but they would be able to pay at the rate of 10s. per annum, after the first seven years, by which the public would be amply indemnified for all the expence which they occasioned; and, in process of time, that rent might be increased.

As to the small farms, it is proposed, that they should consist of 10 acres each, one acre for the house and garden, and the other nine to be divided into three portions for a rotation of grain, grass, and green crops. These small farmers would be possessed of some property of their own, tho' at the same time, might require, perhaps, 20l. each, to assist them in buying seed, working cattle, &c. but they would also be able to pay at the rate of 10s. per acre after the first seven years, and their rent might afterwards be increased.

It is supposed, that to the amount of 2,500 acres might be divided in this way into 250 farms, this, with 100 settlers in the village, would make 350 families; which, at six to a family, for their children are very numerous, (more especially since inoculation has been introduced) would make in all 2100 souls.

The expence attending the proposed colony, would be as follows:

1. Value of 1500 acres, to be purchased at 4l. per acre, (the remaining 1500 being the property of the crown)	£.6000
2. Expence of surveying, allotting and dividing the same	500
3. Allowance to 100 village settlers, 10l. each	1000
4. Allowance to 250 small famers, 20l. each	5000
	£. 12,500

At the end of 7 years, the settlement would produce, at the rate of 10s. per acre, 1500 l. per annum, with the prospect of a considerable increase.

It is proper to add, that the settlement is situated not far from the sea, in a bay, well calculated for carrying on the cod, and other fisheries, in which the people would partly employ themselves; so that this colony would prove a valuable nursery for seamen, besides being in other respects so useful.

Let this plan be compared with any scheme of foreign colonization.

nization, and it will not be difficult to decide which is entitled to a preferment *.

FOR THE FARMER'S MAGAZINE.

Short Retrospective Notices of Agriculture in Tweedale.

Besides those permanent improvements of extensive outlay, and of distant return, (generally considered as exclusively belonging to the department of perpetual landed proprietors) which Mr Findlater has specified in his survey of our country, as performed at their own expence, by tenants upon the estate of Neidpath, upon the security of leases of 57 years; whose length of endurance secures to their possessor an absolute right of free transmission, and alienation, so encouraging to the fixing of his own capital in the soil, and so favourable to the proving of credit for other capitals to be launched out in the same enterprize. Besides the improvements of this description, so executed, in building, planting, and stone dyke enclosure, improvements, of mere surface culture, have been going on in pretty rapid progression, upon the security of leases of the ordinary endurance of 19, 20, and 25 years.

In the latter description of improvements, probably the parish of Eddlestone, of whose Farmers Club you have made honourable mention in your last, may be considered as being among the foremost; and that, in consideration, not only of the *universality* (with trifling exceptions) of the adoption of the improved husbandry in every farm, but also, as to the *extension* given to it, in several particular forms. Not only are the croft lands (or those destined for continued tillage) reduced to such regular rotation, that, at a glance over the fields, you can pronounce what had been the former crop upon each, and what will be the next succeeding one: but, in various instances, the hand of culture has been extended to the hills of lower elevation; destined for perpetual pasture, as unfit, from poverty of soil, to make any adequate return for the expence of continued tillage. These (in their natural state, covered with a coat of short stubby heath, and almost of no value whatsoever) have been fallowed, limed, and (where compost and dung was attainable) sown in turnips, which were eaten upon the ground,

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* If the Crown would give up its share of the common, (from which at present it derives no benefit) a company might probably be erected to carry so useful a plan into execution, at its own risk and expence.

ground, and afterwards sown with suitable grasses, to remain in permanent pasture. It is to be hoped, that these spirited undertakings, set on foot within these half dozen of years, shall properly reward their authors.

The turnip and sown grass husbandry, might have begun to rear its head among some of the tenantry in this parish, probably twenty years ago; its so universal prevalence cannot be dated back for more than ten or a dozen years, the enterprises upon the hills being of still later date. When turnips first began to prevail, they were singled in the drill by the slow and expensive operation of cautious hand weeding; now, all the young people of the parish are accustomed to *single* (in English, *set out*) with speed and dexterity, from the time their arms are sufficiently strong to manage the hand hoe. In the similar former slow operation of hand weeding, the weeds, in the intervals, often got a head before the singling was completed; and the only instrument and operation used to humble them, was the paring of the ridges by the plough, which exposed the narrowed drill to drought; and if you went near enough to cut the weeds close from the plants, endangered the oversetting them, together with the earth they stood upon, or the overwhelming of them by the mouldering earth spewing out to the left hand of the plough; now, the intervals are neatly cleaned of weeds by a horse hoe, with a thin triangular sock, to cut the weeds at the bottom of the furrow, and with two coulters, or shaving irons, converging below, and diverging above, with a regulator to straiten or widen them to any dimension of interval, which shaves off the weeds, without taking off almost any earth from the sides of the two drills, betwixt which it is drawn along.

Having taken this special notice of Eddlestone, to which you have already attracted public attention in your last, I have to observe a few things in regard to Tweedale husbandry in general.---Be it known, then, to you and your readers, that the progression of the improved husbandry, must soon lead to a great change in the arrangement of Tweedale farming economy: While less prevalent, the hay crop was ever considered as a marketable part of the farmer's produce, and there was sufficient demand for the whole: the market, however, seems now overstocked; the annual produce exceeds the annual demand; and probably the farmer must betake himself to the consuming of this article in the house by bullocks; or, to depasturing it by sheep, from the starting, without cutting it at all, after the manner of East Lothian. A considerable part of this year's crop is winter stacked for want of demand; several farmers have upon hand the crops of both this and last year, having

having little prospect of getting clean handed by sale, unless by demand for the store sheep, if the winter proves severe, or by the emigration of your Lothian cattle as boarders, when an enemy shall appear upon your coasts.

Mr Findlater, our county reporter, has observed, in his survey, 'That improved husbandry, from its superior produce, 'enables higher rents to be offered; and that higher rents thus 'necessarily given, enforce the adoption of improved husband-'ry, without whose superior produce they could not be paid.' We have, of late, experienced a little of the truth of this maxim; very high rents, indeed, (to very near the tripling of the former) have lately been given for Tweedale sheep farms, upon the *speculation* of the superior product to be raised from the fine wooled cheviot, compared with the accustomed coarse wooled, black faced, horned breed of sheep; this will certainly enforce the adoption of the same *speculation*, as the former mode of practice will not yield produce to answer the rent: I say, *speculation*, as the price of the fine wooled has not yet come to its level; nor will it, till the rage of speculation for this mode of stocking shall have been satisfied, by full plenishing among such as are now in quest of them, and are willing to give for them, a *pretium affectionis*.

The Swedish turnip is more and more in request among farmers, particularly in Newlands parish, where they have been pretty much extended within three or four years; in some parishes they are not yet known: They will never be depended upon for the chief part of the crop, and will only be sown in general practice, to the extent of *corps de reserve* for spring; for they grow not seemingly to the same weight of crop; they require also earlier sowing; consequently, like potatoes, constitute a crop less favourable to thorough cleaning of the land; they require, besides, land more rich by nature and by art.

The winter storing of turnips of the common kind, is becoming yearly more prevalent; piled up in long narrow ridges, on the surface, perhaps 8 feet wide at base, and contracted like a wedge, and thatched to the ground with divot, straw, or rashes. This mode of improvement came to us from the west, a few years ago: even if the bulbs only are preserved, and the shaws lost, it is a great saving, as in two years out of three, all our turnips upon the ground at Christmas, are entirely lost by the frost. Turnips stored as above by Hallow-day, are perfectly good at April. The shaws immediately ploughed in, are found considerably nourishing.

A gentleman farmer in Tweedale (who unites the assiduity of the Practical Farmer, to the superior information of the man of letters, to the discharge of the public duty of a resident

dent landed proprietor, and to the gratuitous practice of his original medical profession among his friends, and the poor in his neighbourhood) has, of late, constructed covered sewers, inside the wall (to prevent admixture of rain) of all his cattle farm offices, with iron borders, to admit only the urine; these all terminate in one common reservoir, also under cover, in one of the feeding byres, constructed of free stone, and covered by a Hailes flag, which can be raised by a ring, when necessary, to clean the reservoir; in the reservoir is a pump. Perfect command being thus obtained of the urine in a pure, unmixed state, I hope the public shall in due time be favoured by him, through means of your publication, with his agricultural results from the various applications of that hitherto too much neglected mean of improvement. He knows well how to conduct an agricultural experiment with accuracy; and to draw from his inferences, with equal sagacity. I am yours, &c.

Nov. 18. 1803.

A Member of Eddlestone Farmer's Club.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On Drilling of Corn, &c.

SIR,

THE drilling of corn is making rapid progress in Berwickshire, and on the other side of Tweed, and I hear no complaints of want of success. I do hear many complaints against drilling machines, from the difficulty of keeping them in a streight direction, running the drills into each other in some places, and leaving corresponding wide gaps in others; and from the difficulty of keeping all the hoppers equally right, one or more often choaking, and consequently bilking so much land of its seed. My drilling is performed with perfect regularity and precision, by a small double-mould board plough, going backwards and forwards, exactly as if drilling up the land for turnips, only narrower, about 12 inches, and followed, or rather preceded by a drill barrow, for which I have groved nuts of different powers of delivery, for different grains.

I say the barrow precedes the plough; having drawn one hollow drill with the plough, the barrow enters where the plough comes out, and goes on to the end of that drill, being lifted out till the plough comes again to turn. The plough follows to make the second hollow drill, in doing which, the seed in the first is lightly, but completely covered. When the field is drill-

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led out, the harrow, followed by a heavy roller, makes all smooth. In my dry land, I generally sow all level, without water-furrows; and with my plough and harrow, am rather at a loss for water-furrowing, which some of my land certainly requires.

I have seen, however, what appears to me a better plan, and completely calculated to obviate that difficulty; and I think the implement is mentioned in the Survey of Mid Lothian. A common plough has a drill-barrow attached to it, susceptible of being easily made to deliver its seed, or withhold it, at pleasure. In this way the land may be gathered, and the seed sown under furrow, with the utmost regularity, and the water-furrows formed. After harrowing, these can be opened up in the usual way, and the land finished with the roller, or not, as may be judged best, according to circumstances. On my land, I prefer rolling heavily, as it is very dry. Indeed, but for that, I should have been extremely ill off this season for straw, as it enabled me to mow my whole crop.

The same extensive culture of wheat takes place here, and probably for the same reason, as in other places, the unsaleable nature of barley. I shall not be rash, in blindly imitating the example; for, though I have been very delicate in taking wheat, I cannot much boast of my success in any of my trials. My land seems to want sufficient ſtrength for maturating that grain. I enter into no theoretic reasonings, on the different natures of wheat, barley, and oats; but such seems to me a fair statement of the fact, that wheat requires a certain degree, at least, of clay in the soil, all other circumstances being equal.

Turnips are letting at a high price in this county. Mine, which were but a middling crop, are let at L. 6 the English acre; though, in a good turnip year, they would not have brought L. 2, 10 s. None of them failed; but they gave over growing a great while, during the long drought, and threatened to die altogether, as their leaves were generally withered, all but the crown, and there became discoloured.

I hear universal complaints against ruta-baga, from its uncertainty of growth. I sowed about two acres in the middle of May. They all grew, but the crop is very inferior to a good crop of turnips; I dare say not a quarter of the weight. This having been a very unfavourable year, I shall not yet desist from having two acres or so of my turnip-fallow annually in ruta-baga, till experience determines positively, whether to extend its culture, or to give it up altogether. The culture of ruta-baga would certainly be most convenient, if

a tolerable crop could be depended upon, as beginning earlier the tedious business of turnip-sowing, and lasting longer for spring food, which are important considerations.

In the turnip fields of some of my neighbours, I am told there were a considerable number of small caterpillars this summer; but as they were not extremely numerous, and did not attack till the plants were a good deal advanced, they are said not to have done much damage. On my ruta-baga I observed several plants infested with the large common caterpillar, which we call usually the kail-worm, from which I believe the white butterfly proceeds. They were so few, however, as to do little harm; and I could not discover one of them upon the common turnip. I am no botanist, but I believe the turnip and ruta-baga are decidedly of different genera or families of plants; the ruta-baga being more allied to colewort and rape, and the turnip to mustard. But, on this subject, I must request the information of some of your botannical correspondents.

I tried this year a species of Hasting pea, but for which I have no name. It is of a dun yellow colour, much spotted, and a great deal earlier than the Scotch hot-seed pea. This I can distinctly ascertain, having had both in the same field, and my yellows were ripe above 14 days sooner than the others, sown exactly in succession. The Scotch gave at least double the quantity of straw or palm; but nothing could exceed the apparent productiveness of the yellow spotted pea, in corn.

I am most decidedly convinced of the advantage of drilling peas. The field above mentioned was drilled at twelve inches distance, except the head-lands, and a few irregular short buts, which were broadcast. The drilled part, being hoed, was clean, like a garden, and completely covered with crop; insomuch that, when the plants grew heavy, and fell over, not an inch of land was any where visible. The broadcast head lands and buts showed only a few straggling plants, choaked up in an infinity of weeds, of every kind; and I am sure, if gathered separately, would not nearly have produced the seed given to their part of the land. I am as decidedly confirmed, by experience, in the great superiority of drilled beans over broad-cast; and have not sown any in the latter way for several years. Next year I mean to drill my tares.

Nothing farther relative to husbandry occurs to me at present, except what I think a very great improvement upon the thrashing machine,—working both the rakes by a train of wheels, instead of the old way, by belts. I was so unfortunate

nate as to get a bad machine, six years ago, which went on progressively, from middling to bad and worse, till at length it failed so much, that I have got a new one entirely. In the old, where the rakes were driven by belts, if the straw happened to be rank, I was obliged to post a person at the rakes continually, to help them forward, when choaked. I need not say that a proper train of wheels obviates this, with absolute certainty. The fanners do not need this precaution, as not liable to the same cause of checking their motion, and being infinitely lighter to drive. Besides, their distance would render a wheel-train cumbersome and inconvenient, as well as a great additional expence.

In horse-wheels there are two modes of draught. By traces, from low starts; and by the shoulders, from starts placed high above the horses. I shall not trouble you with mathematical reasoning on the subject, leaving that to others more competent. But it may be incontestibly demonstrated, that on a start of 13 feet long, the horse which draws by traces, operates with a lever, at least three feet shorter, in effective strength, than when fixed to perpendicular limbers, on each side of his shoulders. Hence, the power of four horses in the one way, barely exceeds the power of three horses in the other, by about a thirteenth part of the power of one horse: Or, in other words, three horses, drawing by the short chains at the high starts, are almost equal, in power, to four horses drawing by long traces, at the low starts; every other circumstance being equal. In my new machine, having that improved method of draught, my four horses work a vast deal easier than in the old one, which was drawn by traces; although the feeding rollers in the new machine are completely a foot longer than those of the old, and it consequently does so much proportionally more work in the same time.

Another very important consequence attending this superior mode of yoking the horses, is, that it admits of breachings, by which the machine is instantly stopped with the utmost readiness, whenever that is required. Whereas, in the old way, by traces, it required a great deal of time and trouble, to get the machine stopped.

There can be no doubt, that wherever water can be had conveniently, and not at too great expence, it is the most economical, and most effectual power for working a thrashing machine. Where that can not be had, a wind-mill is certainly the next best way, especially if the farm be of sufficient extent to warrant its expence. But, even in such cases, it is highly proper, and even necessary, to have a horse-wheel, to supply fodder and litter, in times of long continued calm weather.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

SIR,

I CONCEIVE it is not inconsistent with the purpose of your useful publication, to enquire into the legal provision made in this country for maintaining the poor; the mode of its management and application; the effect of both upon the national character, and the consequences thereof to proprietors and possessors of land.

That the poor, the aged, the infirm and destitute, ought to be relieved and supported by the community to which they belong, is a principal inculcated by the laws of nature and revelation, and generally enjoined by the statute-law of every well regulated society. The great object to be attended to, in the exercise of this virtuous principle, is, to draw the proper line of distinction betwixt callousness of heart and indifference about the concerns of the poor (on the one hand), and the making such liberal provisions for their support (on the other), as to hold out a temptation to want of frugality and economy, by encouraging sloth and idleness, which seldom fail to produce profligacy of manners; and these in their turn, by creating want, are certain of resolving into abject meanness of spirit, and dependence upon others; which, of all things, tend most to degrade the character, and lead to the very evil which the public provisions for the poor was meant to correct.

These positions cannot be better illustrated, than by the opposite effects produced by the operation of the poor-laws, and their management, in the two divisions of this island.

There is no country where greater liberality is displayed by all ranks of people than in Scotland; where the poor are provided for at less expence; and where greater sobriety and decency prevails among that description of people, and more of that modesty and humility, becoming their situation. Whereas in England, the provision for the poor is most exorbitant. The burden is becoming every day more intolerable, and will undoubtedly, at no distant period, rouze the attention, and call forth the vigorous interference of the legislature, to remedy a growing evil, which threatens to overwhelm the country. Besides the immensity of the sums allotted for the poor, to the amount (it is believed) of several millions a year, it is scarce to be supposed that they will, in every instance, be managed with the most perfect economy. But what, in a national view, is the worst of all; this liberal provision, which

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was meant for good, is productive of the very worst of evils to the poor themselves. Persons of that description, knowing that the laws of the country have made ample provision for them, when reduced by sickness, misfortunes, or arrived at old age, never study to exert themselves to save a small pittance of their earnings, to support them in these times of unavoidable distress, but squander (in riot and drunkenness) every sixpence that is not absolutely requisite for bare necessaries. It is said to be no uncommon thing, in many towns in England, for tradesmen, after they have exceeded their week's earnings in a tavern bill, to leave their best suit of clothes in the hands of the landlord, as a security for their debt, till the next meeting; and which they never study to redeem, but keep them as a permanent fund of credit. The obvious consequence, therefore, of too liberal a provision for the poor, must be to increase their number; and by holding out a temptation to the neglect of economy, indirectly to corrupt their morals, by encouraging luxury, profligacy, and every species of low debauchery.

In Scotland, except in towns, it may be truly said, that there is no provision at all for the poor; and yet there are few or no countries where they are less numerous, and more humanely attended to. The general views of the Scottish legislature, respecting the poor, were most just and laudible. Their aim was to guard, as far as human foresight and prudence could do, against idleness and profligacy, as being the immediate harbingers of poverty, distress, and degradation. They took care to make provision for the poor, but it was only for the sober and industrious poor; while they threatened, with their utmost vengeance, all vagabonds, vagrants, sorners, sturdy beggars, and masterless persons. In our oldest laws, upon this subject, it is expressly ordained, 'That none 'be permitted to beg betwixt the ages of 14 and 70, until, af-'ter examination, it be found that they are not able to gain a 'livelihood otherways; when they are to receive badges, to 'entitle them to beg; and all others are to apply themselves 'to work, under the pain of burning on the cheek, and ba-'nishment.' Acts, 1424, 1457, 1503. And by a subsequent act, in 1535, none were permitted to beg, except in the parish where they were born. And by act 1551, none are permitted to be served with alms, except those who have badges. To encourage the same idea of industry and frugality, by an act in 1617, 'indigent children going about idle, may be com-'pelled to serve any of the king's subjects without wages, till 'their age of 30 years.' And, by an act passed in 1663, vagrants and sturdy beggars may be also compelled to serve any

manufacturer. As persons of this last description were generally of such depraved characters, and had contracted such habits of idleness, few were willing to receive them into their service; therefore, by an act passed in 1672, cap. 16. workhouses are ordained to be built for setting them to work. The acts against vagrants, and, as they are termed, 'strong and 'idle beggars,' are innumerable. And it is a curious historical fact, that, under this denomination, are comprehended, by act 1579, 74, 'Vagabond scholars of the Universities of 'St Andrew's, Aberdeen, and Glasgow, not licensed to ask 'alms.'

But while the general spirit and tendency of all our statute-laws, relating to the poor, set the strongest brand of infamy upon idleness and profligacy, their humanity and liberality are no less conspicuous. By act 1535, c. 22. the poor, who cannot work, must be maintained by the parishes in which they were born; and when the place of their nativity is not known, it is ordained, by acts 1663, cap. 16, and 1698, cap. 21, that the burden falls upon the parishes where they have had their most common resort for the three years preceding their being apprehended, or their applying for the public charity. And this period of three years residence seems now to be generally adopted, as being that which gives a title to parish maintenance, whether the place of their nativity be known or not.

Magistrates and Judges are authorised and ordained to take up a list of the poor in their several parishes, and to send them to the parishes to which they belong, where houses are to be provided for them, at the public expence, either separately, or with others; and for their maintenance, if circumstances should so require. The whole inhabitants of the parish, without exception, are appointed to be taxed or stented, according to their substance, for such weekly charge and contribution as shall be thought sufficient to sustain the said poor. Act 1579, cap. 74. This power of taxing and stenting for the poor, is again, by act 1663, cap. 16. vested in the heritors, with this addition, that the poor, who are able to work, are to be offered to any within the parish, who will receive them, who are to have their work till they attain 30 years of age; and failing of being so provided for, they are to be sent to the house of correction. Confirmed by act 1672, cap. 18.

Whether it was owing to heritors becoming remiss in stenting themselves and their tenants for the maintenance of the poor, or that any circumstance of public utility required it, it is enjoined, by an act of Privy Council, 11th Aug. 1692, that the ministers and elders of every parish shall be joined

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in commission with the heritors, when they meet to assess themselves and their tenants, for maintaining the poor; and in that act there is this important clause, 'Whoever shall 'give alms to any beggar not of the parish, and shall not seize '(or cause to be seized) the beggar, to be sent back to his 'own parish, shall be fined in 20s. to be applied to the use 'of the poor.' This, and several other acts and proclamations of Privy Council, are confirmed and ratified by acts 1695, cap. 43, and 1698, cap. 21. So that this power of ministers, elders, and heritors to meet, when necessary, and stent themselves and their tenants for maintaining the poor of the parish, who are unable to work, stands unrepealed in the statute-book, as a part of the statute-law for the management of the poor; and by these laws the heritors can only claim the one-half of the contributions collected at the church, to be publicly applied for that purpose.

Notwithstanding that the latest unrepealed acts of our Scots Parliaments evidently authorise this stenting or taxing, when absolutely necessary, yet the good sense of the nation seems to have declined this pernicious system, at least in country parishes; and it may be now said to have nearly gone into disuetude, as a measure of common and ordinary regulation. There are only a very few parishes in Scotland, where this system of taxation for the poor prevails; and these, to their sad experience, feel the bitter consequences of it, in the increase of their poor and poors rates, and all the consequent idleness, profligacy, and want of foresight and frugality, which must ever accompany a too liberal provision for the poor in any parish.

So little is it now supposed that there is any law existing, for obliging heritors and tenants to assess themselves, for maintaining the poor, that when a farm is to be let in lease, it never once enters into the head of either the one or the other, that they will have a single shilling to pay on that account, during the currency of the tack. A tenant takes the farm as dear as if there never had been a law made to that purpose, and he sits secure, that nothing, but some extraordinary public calamity, will ever occasion these laws to be executed.

Except in the cases to be afterwards mentioned, there is, perhaps, no country in the world, where the poor are more humanely and carefully attended to, than in Scotland, and at less expence. For time immemorial, the contributions collected weekly, at the parish churches throughout the country, have been their only fund of support; and this fund is almost, if not altogether, left under the management of the ministers and elders of the country parishes, who receive the

collections, appoint the distributions, as the necessities of the poor may require, meet quarterly or annually, to settle and ballance their treasurer's accounts; and all this without any fee or reward whatever, except the consciousness of doing good. In some parishes there are some small funds in money, arising either from former savings, or legacies bequeathed to the poor, by charitable and well disposed persons. But even with these it would appear, from Sir John Sinclair's Statistical Account, that the expence of maintaining the poor, in country parishes, seldom reaches farther than from 10l. to 20l. a year; and yet, with this small provision, joined with the private charity of the inhabitants, the poor are well supplied, and live comfortably.

The most beneficial effect of this system is, that, being in itself so small, people in the lower ranks of life, never look towards it, as their resource, under sickness and old age. Indeed, the accepting of charity is purely a matter of necessity with them, and not of choice; where it is almost invariably considered as degrading and demeaning the character, from being the effect of sloth or thriftlessness in the former period of life. So great, commonly, is the horror, or aversion entertained upon this subject (of receiving charity), that the most humiliating and unsufferable term of reproach that can be cast upon any one, is, that their parents or near relatives were supported by the Session, as it is called; that is, from the public collections at the church, which are under the management of the minister and elders of the parish, who compose the session or consistory of the parish. So powerful is this sentiment among people in the lower ranks in Scotland, that, in order that this odium may never fall upon their offspring, they study to live with the utmost frugality, that they may be able to give them some education, accustom them early to habits of industry, or place them out at trades; and, at the same time, to save something for old age, and to bury them decently, without being obliged to depend on public charity at that momentous crisis. To have wherewith to purchase a coffin and a winding-sheet, if they should have nothing more, is the height of their ambition. Such is the happy influence of wise regulations, in forming the characters and manners of mankind!

It will readily be conceived, that what has been observed just now about the state of the poor, is chiefly applicable to the poor in country or landward parishes. In cities and great towns, they are under different regulations and management from those in the country. From the dissipation and corruption of manners that are incident to towns, it is at once evident

dent, that the poor will be more numerous. A combination of other circumstances may also increase their number; and it is owing to that unavoidable increase, that any thing like the English system of poor-laws takes place in Scotland. There, houses of various dimensions and descriptions are erected, and endowed for their accommodation, where they are maintained at the public expence, with almost no care or concern of their own. These erections are sometimes made and maintained from funds individually appropriated to that purpose, and others are made at the expence of the community at large, being a tax laid upon the inhabitants for their support. From one or other of these several establishments, the poor, in towns, are entitled to claim a maintenance.

The collections at the church, as in country parishes, being by no means adequate to the support of these expensive establishments, when these are exhausted, a tax is imposed upon the citizens, to supply the deficiency; and in consequence of this, the whole management, and all the regulations respecting the poor, devolves upon the Magistrates, or persons authorised by them for that purpose. One of these regulations now generally adopted, is, that public begging or asking alms, in towns, is strictly prohibited. The poor are either received into the public establishments provided for them, or they receive a stipulated supply in their own houses, according as their situation may require. Many of these poor in towns, and large villages, who have been long inured to habits of profligacy and dissipation, not possessing that delicacy of sentiment above described, as peculiar to the poor in country parishes; and being either dissatisfied with the provision allotted to them, or uneasy, under the restraint of not being permitted to beg in town, sally forth, in swarms, into the country, and raise contributions, by their lies, their whining, and clamorous importunity, upon the compassion and generosity of the inhabitants. And what chiefly adds to this scene of perpetual aggression and disgust, is, that it is not always upon the most necessitous and pitiable objects of distress, that these charitable contributions are bestowed; but upon a parcel of idle vagrants and vagabonds, who commonly resort with their plunder to gin shops and dry quarters, where they indulge in all the filthy orgies, and low buffoonery and obscenity, so well described by Burns, in his poem of the *Taterdemalians*.

It is impossible to conceive a more disgusting nuisance, or a more pernicious evil in society, than the permission of these vagrant beggars, that every day pour upon the country, like swarms of devouring locusts, from all the adjacent towns and villages.

villages. They consume the provision that ought to be applied to the parochial poor, who, if it were not for them, could be far more liberally supplied, and the burden of supporting them would never be felt. They spread and encourage vice and idleness, and, by the frequency of their repetitions, they chill the very feeling of charity itself. But what chiefly is connected with your department, these gentry ought to be considered as so many idlers, who prey upon the labours of the industrious, and by which they become doubly pernicious, both from their being non-productives, and also from their withdrawing their services from the labour of the field, at a time when labourers are in so much request.

There is no part of police, or of political regulation, that calls more loudly for immediate redress than this. It is an evil that is every day encreasing, and will continue to increase, in proportion as the wealth, the population, and the manufactures of the country increase in the cities and great towns. The greatest service that can be done to the state, and to the vagrant poor themselves, is to confine them strictly within the bounds of the parishes to which they severally belong. And it is a most happy circumstance, that this can be done in the most speedy, effectual, and easy manner possible. The remedy needs only to be mentioned, in order to be administered.

We have seen, from the foregoing statement of the statute-law of Scotland, that all Magistrates and Justices of the Peace are empowered and enjoined to see that the poor shall be rigidly confined to the parishes to which they belong; and when they find them transgressing, they are charged to commit them to hard labour, in the house of correction; and all who are found giving them alms, are to be fined in the sum of 20s. for the use of the poor of their own parish.

Let Justices then, at their Quarter Sessions, appoint, in the first place, a considerable number of constables in every parish. Let it not only be an important part of their instructions, to apprehend vagrants, but let them regularly call the constables before them, at their quarter or annual meetings, and enquire strictly into the faithful discharge of this part of their duty, and fine or punish them severely, when they find them negligent. Let the constables also be obliged to give an account (upon oath, if they be desired), if they know of any one who has given alms to any vagrant poor, and let the fines (upon all transgressors) be exacted in its fullest extent. If gentlemen would only take the trouble to do this (and they ought positively and seriously to do it), vagrant beggars would instantly disappear in this country, as if they never had had existence.

Your

Your magazine, I find, is becoming every day more popular, and acquiring a most extensive circulation. Under these circumstances I consider it as an obligation incumbent on you, to remind the Justices of Peace of their duty, and to point out the lamentable consequences attending the neglect of it. In doing those things, you will oblige many of your friends, and, in particular, your humble servant,

AGRICOLA.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On ascertaining the quality of Lime.

SIR,

I know nothing of more importance, less attended to by Farmers in general, than the quality of lime. Not unfrequently in driving home, what they understand to be a thousand loads of lime, they are unknowingly bestowing their money, their time, and their labour, on a disguised substance, the half of which is sand or clay. This disguise too, can seldom be detected by the eye, or any of the other organs of perception. Plain directions therefore for discovering the qualities of lime, it is believed, may not be unworthy of the notice of your readers.

Lime is an alkaline salt of such a nature, that if quite pure, it may be wholly dissolved in any strong acid or vinegar. It melts as completely away in this menstruum as common salt or sugar, or any other essential salt of vegetable substance do in water. Hence, it is very easy to try the comparative value of two or more pieces of limestone from different quarries. Buy a bottle of muriatic acid, which may be obtained from any Laboratory. Then weigh out equal quantities of the limestones, the comparative quality of which you mean to ascertain, mixing together a due proportion of the different seams or strata, that are commonly wrought in each quarry. That limestone which leaves least sediment when dissolved, is of course the best.

There can be no comparison made however, if you take unburnt limestone of one rock, and burnt stones or slacked lime of another. Each portion for trial, must be precisely in the same state. For all pure unburnt limestones, contain about two-fifths or 40 per cent of their weight of air (carbonic acid gas,) which is expelled by burning. Of consequence, a given weight of burnt limestone, provincially called lime-shells, must contain a proportion equal to this, of more refuse than the same weight of unburnt rock. Moreover, by the knowledge of the exact loss of weight occasioned by burning, a calculation may be made of the expediency of driving home limestone, to be burnt in some cases

cafes where the fuel is only to be got near home. In general, it is moft profitable to carry off limeftone as foon as burnt, in order to avoid weight of carriage, becaufe, whenever it again grows cold, it begins to imbibe its carbonic acid from the atmofphere.

If lime is not pure, it is obvious that it will lofe a great deal lefs weight in burning than pure lime. Hence arifes another criterion for trying the goodnefs of lime-fhells. The lighter they are for their bulk, or the more weight they lofe in burning the better. Weigh a piece of limeftone, burn it properly, then weigh it again. If it has loft as much as two-fifths of its weight by burning, it is good lime.

Unburnt limeftone feldom contains more than eighty per cent. of pure chalk or carbonate of lime. Pitleffie quarry in Fife belonging to Mr Low of Annfield has one Stratum containing 99½ per cent of carbonate of lime, which is the pureft limeftone I have ever heard of. Perhaps, however, fome fine marbles may be even more pure.

The colour of lime is no criterion of its goodnefs; for inftance, Aberdour lime, which is blue, was found, on a comparative trial, to be richer than a quantity of Sunderland lime, which was of a bright white colour, indicating purity in the general opinion.

Another method of trying the comparative goodnefs of lime, is by afcertaining what quantity of proper mortar fit for building (and which fhould fall readily off the mafon's trowel) can be made from a given quantity of lime-fhells. As this may be done eafily on a large fcale, it is, in my humble apprehenfion, the beft method of trial, becaufe a large quantity of lime moft generally contains a due mixture and proportion of all the different ftrata of the rock which are frequently exceedingly different in quality.

Some limes require no fand at all to make mortar for building; and thefe are eſteemed by intelligent mafons the beft for architecture, as making the ftrongeft cement. But fuch limeftone, containing perhaps more than three fourths of its bulk of fand, can feldom be applied with economy to the purpofes of agriculture.

I was once judge of a comparative trial by mafons of two cargoes of lime-fhells, each of which was accounted excellent. The one was from the neighbourhood of Aberdour of a quarry belonging to the Earl of Morton, the other from a quarry in the vicinity of Edinburgh. The lime-fhells of Aberdour, when flacked, produced three times their quantity of powdered lime; and that powdered lime required three times its quantity of clean fand to make good mortar for building. In other words, each boll of Aberdour lime-fhells, by being watered, became three bolls of quick lime powder, and each boll of the powder became

good

good mortar with three bolls of ſand. Thus each boll of theſe burnt lime ſtones was converted into no leſs than nine bolls of building mortar, whereas each boll of the Edinburgh lime-ſhells, ſlacked to two bolls of powder, and each of the bolls of powder required only two bolls of ſand to make proper mortar. Thus the boll of Edinburgh burnt lime ſtone was convertible into no more than four times its quantity of mortar.

From what has been ſaid, will appear the vaſt difference in the qualities of limes that are even generally eſteemed good; and from the laſt mentioned comparative trial, it will be apparent to every one, that it may ſometimes be proper economy, where there are two places for obtaining limes, ſuppoſed in general to be of equal quality, though the one may be ſituated at double diſtance, or ſold at double the price of the other, to fetch it from the place at the greateſt diſtance, and of the higheſt price.

I am yours, &c.

A. S.

FOR THE FARMER'S MAGAZINE.

Letter from Mr William Pitt, concerning the Staffordshire Plough, with a Figure thereof, communicated by Sir John Sinclair, Bart.

SIR, *Pendeford, July* 10. 1803.

IN my account of Staffordshire ploughs, referred to in your letter, I believe I have used an inaccurate expression in the term '*single wheel plough*;' it should have been, *single furrow wheel plough*; and was meant to distinguish it from the double furrow, or two furrow wheel ploughs; for both are in common use in this country, and both are guided by two wheels, the one going in the furrow, the other on the unploughed land, much in the manner expressed in the drawing. Until about 30 years ago, the ploughs in this neighbourhood were universally swing ploughs, with a holder and driver, upon a good construction, and made good work. When the wheels were applied, no alteration took place in the construction of the plough, except pitching it a little deeper, (i. e.) more inclined to the ſoil, the excess of which is counteracted by the wheels. The swing plough, without wheels, is still used for short land, hedge sides, and ill formed corners, where a holder and driver are both necessary, on account of the frequent turnings, as the wheel plough is more liable to catch roots near hedges, or other powerful obstructions, whereby the shares might be bent, or the tool itself broken,

broken, which the holder of a hand plough, with a little care, may avoid.

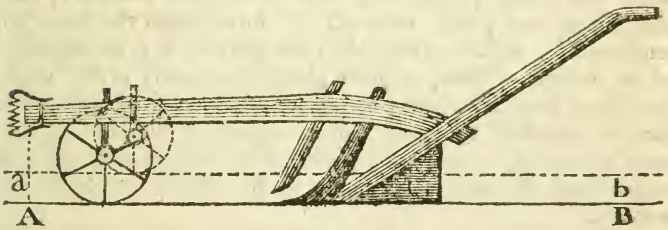
In all strait furrowed work, the single furrow wheel plough is an excellent tool for our land. It requires no holder, except turning in and out, at the end, which the driver does the instant the horses are upon the turn; at other times he walks over against the horses, whereby he keeps them in speed, and makes them labour equally. Is not this much better than walking behind the plough, and guiding with reins, which is the case in the Norfolk plough? A docile boy of 10 or 12 years old, will drive three horses in one of these ploughs, and plough an acre of land per day, in common work, and can do much more when exertion is necessary. The ploughing is performed five or six inches in depth, and if the tool be in good order, nothing can perform the work better; it is generally much superior to that done by the best ploughmen with the hand plough.

Respecting ploughing all sorts of land with two horses, the idea has always appeared to me absurd; the different proportion of resistance between a strong clay turf and a pulverised light sandy soil, will not be less than as five to one; therefore five horses are as necessary in one case, as a single one in the other. Three good horses are necessary to plough the gravelly or mixed loam of this country, an acre per day, five or six inches deep; and he who should persevere in attempting to do it with two, would lose more in horse-flesh than he gained in labour. The light sandy soil here can be ploughed with two horses, but those who have them, prefer working four horses in a two furrow plough; and a few instances occur of oxen working in these ploughs. The two furrow wheel plough is much used on the light soils, and drawn by four or five horses; but on the heavier soils, the plowmen are apt to plough too thin with them, in order to favour the horses; and at the ends they lay heavy upon the hind horse, or leave broad headlands. Some farming gentlemen use the Norfolk plough, particularly Sir George Pigott, Bart. and Henry Vernon, Esq. but the most attentive farmers in that neighbourhood, can perceive no advantage accruing therefrom; they had both ploughs and plowmen from Norfolk. An acre of land is ploughed here with the single furrow wheel plough, by going 11 miles along the furrow, and nine inches wide, which is an acre without a fraction. This, at two miles per hour, requires five hours and a half, to which add one hour for turning, and half an hour for a bait, makes seven hours; which, with going to and from the field, forms an easy day's work. It is easy to see that more

land

land may be ploughed per day, if necessary. I answer your queries as follows:

1. The single furrow wheel plough has been introduced about thirty years.
2. A section of it is inclosed, with dimensions, &c.
3. The best way of sending one from this country to the north, would, I think, be to send it by inland water carriage to Newark on Trent; from whence, it might be conveyed in a stage-waggon. The price, new, wood and iron, would, I suppose, be less than three guineas.
4. The advantages of this plough are: It requires no holder, but only a man or boy, to attend the horses. It will perform well to any reasonable depth, the wheels being moveable, up or down, by a screw, or by notches.
5. It is not adapted to hedge sides, or land with strong roots, or powerful obstructions, for reasons already given.



EXPLANATION.

The line A B represents the bottom of the furrow; and a b, the surface of the ground, when the furrow is six inches deep.

From A to underside the beam, 16 inches.

Height of the furrow wheel, 18 inches.

Ditto of the landside wheel, 15 inches, represented by the dotted lines.

The scale of the drawing is three feet to an inch.

I am, Sir, yours, &c.

WM PITT.

FOR

FOR THE FARMER'S MAGAZINE.

Remarks on the Stafford wheel plough, described in Mr Pitt's letter to Sir John Sinclair, Bart. By Mr Alex. Trotter, overseer at Thurso east.

1. THAT all wheel ploughs are heavier to work than ſwing ploughs, is obvious from the following conſiderations. The wheels are of no uſe unleſs the plough has a certain proportion of more hold given either by the beam, the ſhare, or the line of direction, which, when added to the friction of the wheels, neceſſarily encreaſes the weight of the draught; or, which is the ſame thing, renders the implement uſed leſs capable of performing the intended operation. It is plain that wheel ploughs muſt be ſo conſtructed as to preſs upon the axis of the wheels; conſequently, that the head and ſhare cannot run in a horizontal direction with the bottom of the furrow, but, by forming a ſmall angle, cauſes the plough to go upon the point of the irons with a heel raiſed an inch or two from the ground. Every plough, whoſe cutting point is not in a line with the ſlice taken of, muſt have one power working againſt another; for inſtance, when the ſwing plough has more hold than neceſſary, the ploughman muſt preſs, with all his force, upon the ſtilts, to counteract it, which anſwers the ſame purpoſe as is accompliſhed by wheels. Now, a good ploughman rarely preſſes upon the ſtilts; therefore, every implement that requires ſuch preſſure, or which is the ſame thing, requires a ſupport at the other extremity, is more or leſs defective, conſequently gives a proportional increaſe of draught to the horſes employed to work it.

2. The advantages of wheel ploughs are, that when uſed upon irregular ground, or in croſs ploughing 18 or 20 feet ridges, two or three times gathered up; you may by placing the wheels immediately before the ſhare, go nearly at an equal deepneſs, at leaſt more ſo than can be accompliſhed with a ſwing plough: if the wheels ſtand at the point of the beam, it is impoſſible to make good work, for they will be over the crown of the ridge before it is touched by the ſhare, and going up the other ſide when the operative powers are coming down upon the furrow; which, at all events muſt occaſion bad work. In paring ſward for burning, wheel ploughs will execute the work to better purpoſe, than ſwing ploughs. This is incontrovertible.

3. As for the double furrowed plough, unleſs ſuch are uſed on a level dry field, I cannot diſcern a ſingle beneficial conſequence

quence that will be gained from them. They muſt be level in the ſole, and can neither caſt, cleave, nor gather a ridge; therefore are inferior to two ſingle ploughs, wrought by the like number of men and horſes. I alſo think, the latter will go eaſier, and make much better work.

4. That the driver will command the horſes better, walking alongſide of them, than at the tail of the plough, may be true, when horſes are wrought in a line; but, when yoked a-breaſt, the contrary is the caſe. In dry ground, horſes work with more effect in pairs, than in line.

5. An acre per day, Engliſh meaſure, is rather below a medium of work, eſpecially if the furrows, or ſlices, are taken at a nine inch breadth, and only five or ſix inches deep. Theſe are not proper ſizes when ploughing for ſeed, either on lea land, or ſtubble; and it muſt firſt be proved, that laying the furrow on its back, is a good poſition, for certainly a furrow of the ſize mentioned, will not lie in any other way. A furrow nearer the ſquare of whatever ſize it ſhall be, provided breadth and depth are ſuitably proportioned, will receive more benefit from the atmoſphere, ſtand more rain, and be eaſier reduced with the harrows, than where the ſlices are thin, and the original poſition reverſed.

6. It is true, that ſome fields are five times harder to plough than others; and that one horſe may give the ſeed furrow, to barley, turnips, or well wrought ſummer fallows; but, becauſe one horſe may be ſufficient in theſe inſtances, it does not follow that two are unprofitably employed, ſeeing that they are able to go at a faſter ſtep. I know of no cultivated land, but what may be ſufficiently wrought with two horſes, if the proper ſeaſon is choſen; and the only difference that I would make betwixt light and ſtiff ſoils, is, to go at a greater pace on the firſt than the laſt: Upon rough uncultivated land, the caſe may be different.

7. The figure of the plough, is nearly the ſame with our own, but when it is conſidered, that in ours two horſes work a-breaſt, and that according to the deſcription given, three are yoked in length, there muſt appear a neceſſity, for a great difference in the line of draught. This line, in a two horſe plough, is drawn from the eyes of the back-bands, through the point of the beam to three inches back from the point of the *sheath*; but the line of draught in the three horſe ploughs, where yoking in length is practiſed, muſt be taken from the ſhoulders, or back-band of the middle horſe, if they are of equal ſize; and even a line drawn from the middle horſe will be lower (in going to the ſhare), by two or three inches at the point of the beam, than the line drawn from the hind horſe. All this muſt be counteracted by the wheels, or by lowering

the back-bands, which, of courſe, occaſions an augmentation of friction and draught. This is one reaſon why ſo much power is required; and another reaſon may be aſſigned, viz. that if the figure is exact, the coulter is two inches higher placed than neceſſary; therefore, inſtead of cutting, can only tear the ground up. All which things ſerve to ſhew the imperfection of the Staffordſhire wheel plough.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the Smut of Wheat.

SIR,

HAVING lately perused a communication by the late Sir John Call, to the Board of Agriculture, on the smut, or black in wheat, I am inclined to make a few remarks on the subject; because his experiments, in my humble apprehension, not only throw a new light on the matter, but differ entirely from that of your correspondent, A. Z. in your magazine of April 1801.

Both are agreed, that this disease proceeds from small insects, animalcula, bred in the ear of the wheat, and in this I am disposed to acquiesce. Yet there are philosophers that attribute it to minute parasitical plants, which they have discovered adhering to the smutted ears; though these are probably not the cause, but bred there in consequence of the rottenness of these smutted ears.

The followers of the latter doctrine, believing that the smut is propogated by the seeds of these minute plants, recommend washing the wheat intended for seed; and some think it should also be strewed with quick lime, before it is dry, after such washing.

Your correspondent, A. Z. also advises that seed-wheat should be washed. But all seem aware, that steeping seed in pickles of common salt, or stale urine, is attended with danger, and in some instances has occasioned the loss of the whole seed-corn.

Let it, however, be granted, that washing will carry off the minute seeds of such parasitical plants deposited amongst the grain, still a difficulty occurs as to the utility of washing. For, it is certain these small plants affect only the green ears, but do not affect the grain sown, or the roots of the wheat. Indeed, sometimes from the same root arise a smutted and unsmutted stalk; and even in the same ear there are found sometimes smutted and unsmutted grains. How then can it reasonably be believed that the smutted ears are derived from seed of minute plants, sown in the ground with the seed-wheat?

wheat? The same observation applies, if the disease arises from the eggs of insects.

As well may the innumerable, and almost imperceptible insects that prey upon, and destroy a great proportion of the sap, leaves, and fruits of every tree, be supposed to be derived from the root of the tree; but with the root they have no connection, most of them becoming winged animalcula. The seeds of minute plants are also carried about by every breath of wind. The mould of cheese is discovered by the microscope, to be a forest in miniature, well supplied with inhabitants.

Sir John Call supposes, that the smut is occasioned by certain animalcula deposited in the husks of the ear, when the wheat is in blossom, which are fed and brought to perfection by devouring the milky juice; and he observes, that were the disease radical in the original grain of the seed-wheat, or infectious from the juice arising through the pores and tube of the stalk, there could not be, in the same ear, grains, some decayed, and others quite perfect.

To bring the matter to the test of experiment, Sir John collected a quantity of smutted ears of wheat, in some of which were two or more grains apparently perfect; all which he caused to be rubbed out with the hand in a bag, smut and altogether. The fresh grains found in the bag were then sown in a particular ridge, amongst other wheat, in a field under tillage. Their growth from the first was similar to the rest of the wheat, and from a certificate of respectable farmers, it appears their produce was as free from smut, as that of the field in general.

Hence the conclusion is drawn, that washing or pickling wheat, as a remedy against the smut, is unnecessary and useless; and that, as blights and other diseases of plants are more prevalent, from circumstances, in some seasons than in others, so the smut is an accident of a like nature, which mankind can neither foresee nor prevent.

The above doctrine may appear new and unsatisfactory to many respectable and experienced farmers, whose sentiments I would wish to learn before making up my mind on the subject. I only state the experiment of another, and bring it forward to your readers in the way that I think most plausible.

I am yours,

A. S.

NOTE BY THE CONDUCTOR.

WE are ſtrongly inclined to believe, that the theory of Sir John Call will find few diſciples among practical agriculturiſts. Notwithſtanding that our ſentiments are directly hoſtile, we are obliged to Mr A. S. for calling the attention of our correſpondents to a ſubject of ſuch importance; and earneſtly requeſt that it may be taken up by ſome of our reſpectable friends. Farmers may differ about the beſt mode of pickling wheat, but one and all of them agree, that a preventative againſt ſmut is neceſſary. Indeed no perſon (at leaſt in North Britain), ſo far as our knowledge reaches, ever neglected pickling, without ſuffering ſeverely, at one time or other.

N.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the Cambridgeshire Fen Husbandry.

SIR,

As the following queries on fen huſbandry were lately ſent to me from a moſt reſpectable quarter, I ſhall eſteem it a ſpecial favour, if you will permit me to return anſwers to them, through the medium of your Magazine.

'What is the annual rotation and produce of the fen-lands?'

Answer. Firſt year, Coleſeed; which is generally a good crop, and this year ſells, when the crops are not above an average, for 6l. per acre, to be eaten on the land; and as graſs and turnips are ſcarce, good crops of coleſeed are likely to ſell higher ſtill. Indeed this invaluable nutricious ameliorating plant has been annually riſing in value, as butcher-meat has advanced in price; and there is no proſpect that it will fall much, ſo long as mutton and beef are dear. Coleſeed generally proſpers well on fens, moſſes, and all kinds of clays; and it is much to be lamented, that it is not more generally cultivated.

The patriotic noblemen and gentlemen of this country can ſcarcely render a more eſſential ſervice to the Britiſh empire, than to promote a very general cultivation of COLESEED on all ſoils that are too wet for turnips; becauſe coleſeed, when eaten on the land, amazingly enriches it for future crops, and its culture muſt cauſe butcher-meat to be more plentiful and reaſonable at markets.

Second

Second year, oats; which, after coleſeed, even in this dry year, were extremely bulky, and yield generally a laſt, or 84 Wincheſter buſhels, per acre.

Third year, oats. The crop almoſt as bulky, and yields nearly as much as the firſt; for the crops of oats, after coleſeed, are commonly too ſtrong the firſt year, and frequently the ſecond alſo.

Fourth year, wheat; which is frequently too rich, or bulky, and yields, on an average, 40 Wincheſter buſhels per acre. Fen wheat, when clean, makes excellent ſeed for high lands.

Fifth year, oats, with graſs-ſeeds. Even this crop is commonly very good; ſometimes as good as the firſt year, eſpecially if the ſeaſon is favourable.

Sixth year. Mowed for hay, and ſometimes ploughed and burned as ſoon as the hay is carried, and ſown with coleſeed again. At other times the land is grazed, one, two, or more years, before it is ploughed and burned, and then ſown with coleſeed.

'What is a crop of coleſeed worth, if kept for ſeed?'

Anſwer. A crop of coleſeed commonly produces from 30 to 84 buſhels, or a laſt of ſeed (the laſt is 84 buſhels, Wincheſter meaſure,) and ſells from 30 to 50 l. per laſt. It is common to eat the young plants firſt, with ſheep, and then let the ſtalks ſtand for a crop of ſeed: which makes coleſeed an extremely profitable crop to thoſe that cultivate it. A good crop of coleſeed is frequently worth as much per acre as the land that it grows upon; and as the ſeed is commonly ſold in July, the money comes very ſeaſonably, to enable many farmers to get their other harveſt forward.

Fen-grain of all ſorts, when clean from ſmut, &c. makes moſt excellent ſeed for all high lands; and it would be a reciprocal advantage to the fens and high countries, if the beſt fen grain was annually purchaſed for ſeed to other diſtricts.

The fen oats are good this year. The beſt of them ought to be purchaſed, to make oatmeal for the north, and for high country ſeed, and the worſt uſed for horſe-corn: As there are navigable rivers from all parts of the fens to Lynn and other ports, grain can be eaſily conveyed thither, at ſmall expence, by water carriage.

Some perſons of integrity, extremely well ſkilled in all kinds of grain, are willing to purchaſe fen oats, &c. and ſend them to the north, or elſewhere, on fair and honeſt terms, for a ſmall profit. If any Gentleman or Company chuſes to be ſupplied in this manner, a correſpondence may be opened immediately, and any quantity furniſhed. You will oblige me, by adding, that ſuch as are diſpoſed to make enquiries, may addreſs themſelves

to J. S———tt, to be left at the Poſt-Office, Chatteris, Cambridgeſhire, England, till called for, and they ſhall be ſpeedily anſwered. I am, Sir,

Your very obedient ſervant,

A Cambridgeshire Agriculturist.

Thoughts on the Management of Dung.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

SIR,

MANURE, taking the word in its broadeſt ſenſe, being the *sine qua non* of good huſbandry, I truſt the following deſultory thoughts on the means of accumulating and preparing farm-yard dung, cannot be unacceptable to your readers.

The moſt ſuperficial obſerver in rural economicks muſt have often noticed, that a conſiderable number of practical agriculturiſts are inattentive, not only to the gathering of the raw materials, but alſo defective in the ſeveral ſteps of preparatory proceſs, before dung can be thriftily and ſuitably applied. With ſuch, very little care is uſed in cutting the corn-crops, which, properly ſpeaking, is the only ſource whence raw materials can be got. They are alſo too apt to diſpoſe of any hay which may be raiſed upon their farms, even when prices are not ſo high as to tempt a breach of good huſbandry. They often keep more beaſts on the premiſes than conſiſtent with the quantity of provender in hand, thereby reducing the ſtock of manure in an extraordinary degree. Beſides, ſeldom is any care beſtowed in laying up the dung in a regular and careful way, during the winter months, and ſtill leſs upon its ſtate during the exhauſting ſpring winds, or the parched heat of the ſummer months. Inſtead of ſtoring it up with regularity, and mixing the different kinds in a compact heap, it is ſuffered to remain as toſſed from the ſtable and byre; continues expoſed, in its rough ſtate, to the weather; is often inundated with water, and rarely touched till the cart arrives, to drive it to the field.

With your permiſſion, I mean to ſtate my ſentiments on the moſt proper methods of accumulating and preparing farm-yard manure; reſtricting myſelf to theſe points, becauſe nine-tenths of our huſbandmen have no other reſource for ſupporting and enriching their lands. I beg, however, that your readers would not expect any new information upon theſe important ſubjects; as, in fact, I intend only to detail the proceedings of various actual farmers, who are eminently careful to collect and prepare manure

nure. I certainly view such practical details as infinitely better calculated to convey useful instruction, than abstruse disquisitions, or fine spun theories, respecting the food of plants, and the way in which such are nourished and supported. If manure is necessary to the well being of plants (a point disputed by none in this age, so far as my knowledge reaches), then it is of small importance to the farmer, how, and through what channel its virtues are communicated. It is beneficial, and that is enough. Therefore, all that is required, is knowledge how to increase the quantity, and use it in the most advantageous manner.

As straw is the basis of manure, one would be led to think that every good husbandman would bestow the most sedulous attention upon the shearing or cutting of his crop, so as the greatest possible quantity of the raw material might be procured. Very different, however, is the conduct of farmers in general; and over one half of Britain, it may be safely estimated, that at least one-fourth of the straw is left in the field, where its strength is wasted and dissipated by the rains and storms that commonly prevail at the conclusion of autumn. In some districts a stricter attention is now paid to this important operation, and it is to be hoped that such an improvement will gradually extend over all. Independent of the additional grain gained, the increase of manure will more than compensate the increased expence of reaping the crops in an accurate manner.

While I recommend, that the crop should be cut low, in order that materials for making manure may be increased, I by no means contend for that degree of finical accuracy, which requires that not one stalk of the stubble shall be of greater height than its neighbour; a degree of perfection accomplished, perhaps, at a greater expence than can be repaid by the benefit derived, especially when the value of labour is so enormously advanced. This kind of cutting can only be obtained, from putting a very small quantity into the hook at once, and rarely makes a perceptible increase upon the bulk; whereas, by running the sickle upon the ground, drawing a level stroke, and gathering no more into the hand than can be fairly cut, all the advantages of low shearing are obtained at a very trifling increase of expence. I am satisfied that, by a steady perseverance in this practice, from one to two tons of manure (per acre) may be annually gained, more than what was procured in former times, especially where the crops are good. This annual increase must operate powerfully upon the improvement of the country, the effects being precisely similar to those of adding compound interest; and, of course, furnishes the means of gradually rendering every acre of land in the kingdom fertile and productive.

The usual modes of converting straw into dung, need hardly

be mentioned. A good deal is conſumed in the houſe by draught horſes and milch-cows; much is applied to the littering of turnip-cattle; and the remainder is uſed by lean cattle, kept in the fold-yard. Notwithſtanding theſe being the general methods of conſumption, it will be neceſſary to divide my ſubject into two parts, viz. To the management of dung upon light lands, and heavy lands; becauſe manure on each is prepared in different ways, uſed at different ſeaſons, and applied to different crops. For light ſoils, manure requires to be much higher prepared than is neceſſary for clay ſoils; and every ſtep of the previous preparation, to be perfect, ought to be executed in a quite different manner.

For ſoils of the firſt deſcription, where turnips are taken as a firſt crop, dung can hardly be too well prepared; becauſe the nature of the crop to which it is applied, renders a complete incorporation with the ground abſolutely neceſſary, without which the young plants might be ſtarved at their very entrance into life. In the beſt farmed Engliſh counties, which have come under my obſervation, dung is often kept over year, in order that it may be perfectly rotted: and the late Mr Bakewell was in habits of not applying it till it was reduced to a ſtate ſomething like black ſnuff. I do not, however, approve of ſuch protraction; for, when the preparatory ſteps are conducted with judgment, there is rarely any neceſſity for keeping dung over year upon turnip farms; beſides, ſuch a delay cauſes a waſte of the article, and moſt likely diſſipates its ſtrength; at all events, a year's intereſt of the value of the increaſed produce muſt be loſt. In general caſes there is not much difficulty in preparing dung upon turnip farms; becauſe, in the drieſt ſeaſon, from the nature of the food uſed, ſuch a quantity of liquid paſſes from the animals, as to prevent burning, provincially *fire-fanging*, the greateſt obſtacle to the rotting of dung that can be experienced. If turnip dung is regularly removed; if it is properly mixed with the horſe litter, and other excrementitious matter accumulated upon the farm, it will be found an eaſy taſk to prepare all that is made by the middle of April, at which time the fold-yard ſhould be cleared. What is produced after that time, ſhould be ſtored up ſeparately; receive waterings, if the weather is dry, and be reſerved for clover-ſtubbles, or other fields that are to be dunged in autumn.

I have mentioned the middle of April as a good time for clearing the fold-yard; but this does not prevent the work from going partially forward through the winter, when ſuitable opportunities occur. When drove out of the fold-yard, the dung ſhould be laid up in a regular heap or pile, not exceeding ſix quarters, or four feet and one half in height; and care ſhould

be

be taken not to put either horſe or cart upon it, which is eaſily avoided, by backing the cart to the pile, and laying the dung compactly together, with a grape or fork. It is alſo uſeful to face up the extremities with earth, which keeps in the moiſture, and prevents the ſun and wind from doing injury. Perhaps a ſmall quantity of earth ſtrewed upon the top, might alſo prove uſeful. Dung, when managed in this manner, generally ferments very rapidly; but if it is diſcovered to be in a backward ſtate, a complete turn over, about the firſt of May, when the weather becomes warm, will quicken the proceſs; and the better it is ſhaken aſunder, the ſooner will the end in view be gained.

A ſecluded ſpot of ground, not much expoſed to wind, and perfectly ſecure from being floated with water, ought always to be choſen for the ſcite of ſuch piles or heaps. If the field, to which it is to be applied, is at hand, a little after-trouble may be ſaved, by depoſiting it there, in the firſt inſtance; but I have always found it moſt convenient, to reſerve a piece of ground adjacent to the homeſtead, for ſuch a purpoſe. There it is always under the farmer's eye, and a greater quantity can be moved in a ſhorter time than when the ſituation is more diſtant. Beſides, in wet weather, and this is generally the time choſen for ſuch an operation, not only are roads cut up, by driving to a diſtance, but the field, on which the heap is made, may be poached and injured conſiderably.

The above is the moſt approved method of preparing dung upon turnip or light land farms, and a few words ſhall now be ſaid reſpecting the management neceſſary upon thoſe of a different deſcription.

Upon clay ſoils, where wheat forms a principal part of the crop; where great quantities of beans are cultivated, and few turnips ſown, unleſs for the uſe of milch cows, the rotting of dung is not only a troubleſome, but an expenſive affair. Independent of what is conſumed by the ordinary farm-ſtock, the overplus of the ſtraw muſt ſome how or other be rotted, by lean cattle kept in the fold-yard, who either receive the ſtraw in racks, or it is thrown acroſs the yard, to be eaten, and trod down by them. According to this mode of conſumption, it is evident that a ſtill greater neceſſity ariſes for a frequent removal of this unmade dung, (I cannot find out a better term), otherwiſe, from the trampling of the beaſts, and the uſual want of moiſture, it would compreſs ſo much as to prevent putrefaction altogether. To prepare dung ſufficiently upon farms of this deſcription, is at all times an arduous taſk, but ſcarcely practicable in dry ſeaſons; for if it once gets burnt (*fire-fanged*), it is almoſt phyſically impoſſible to bring it into a ſuitable

ſuitable ſtate of preparation afterwards; and, at all events, its virtues are thereby conſiderably diminiſhed. Laſt ſeaſon furniſhed ſtrong proofs in ſupport of what I am maintaining; for, owing to the goodneſs of the weather during the winter and ſpring months, leſs dung was driven out than common; and the conſequence was, that on few clay farms, dung was made half rotten, even where the moſt anxious efforts were beſtowed upon watering and turning it, when the ſeaſon advanced. The continued dryneſs of the weather was, to be ſure, an exception to that of common ſeaſons, and increaſed the difficulties which, at all times, are undergone in ſuch ſituations; but, had it been equally wet, as it was dry, the propriety of frequent removals would not have been leſs urgent. Straw flung out in conſiderable portions to the fold-yard, after being compreſſed by the trampling of cattle, becomes rather like a well packed ſtack, than a maſs of dung in a preparatory ſtate. The ſmall quantity of water and dung made by the animals, is barely ſufficient to cauſe a ſlight fermentation; and this ſlight fermentation, when the heap gets into a compreſſed ſtate, is ſure to bring on *fire-fanging*, as already ſaid; after which, its original powers can rarely be reſtored. To prevent ſuch an injury, no meaſure can be ſo ſucceſsfully uſed, as a frequent removal of this unmade dung, eſpecially if the weather is wet at the time. If people can ſtand out to work, you cannot have too much wetneſs when executing this operation; for there is always ſuch a quantity of the ſtraw that has not paſſed through the entrails of the cattle, as renders it almoſt impoſſible to do injury, in the firſt inſtance, by an exceſs of moiſture.

What I would therefore recommend, upon every clay-land farm, eſpecially thoſe of conſiderable ſize, is a frequent clearing of the fold-yard; and that the greateſt care ſhould be taken to mix the ſtable or horſe dung in a regular way with what is gathered in the fold-yard, or made by other animals, in order that a gradual heat or fermentation may be ſpeedily produced. Where the materials are of ſuch ſorts as I am now ſpeaking of, (that is, a ſmall quantity of dung, or excrementitious matter, and a large ſtore of unrotten ſtraw, only partially moiſtened), I am clear that no damage can enſue from putting horſes and carts upon the heap; nay, I rather think, that a poſitive benefit will be gained from this ſlight compreſſion. I am, at the ſame time, well aware that the ſentiments of many able and judicious farmers, are different from mine on this point; they being of opinion, that the natural preſſure of the materials is quite ſufficient, and that any more is accompanied with injurious conſequences. I am, however, ſatisfied, that ſuch ideas are unfounded; having tried both methods upon an extenſive ſcale, and, from the

the refults, feel myfelf juftified in recommending the above mode of management. Perhaps this difference of fentiment may arife from not attending to the very different qualities of dung on different farms; for I have already fully recognized the propriety of abftaining from putting horfes and carts upon fuch heaps or piles, containing materials which can be called dung, even tho' it may be in an unripe ftate. I contend, however, that no injury is fuftained from flightly compreffing a mafs of rough materials, nay, that fuch is attended with beneficial effects; for, if the materials were laid up with a fork, or a grape, as is recommended in the cafe of turnip or half rotten dung, the fmall portion of moifture therein contained, would fpeedily be wafted or evaporated, a circumftance which I have repeatedly witneffed, efpecially when dry weather fucceeded the period when the heap was made up. Befides, driving a one-horfe cart over a furface of materials only one ftage removed from the condition of dry ftraw, will never prevent fermentation. If left in the fold-yard, I grant that the conftant treading of the cattle therein confined, and the daily increafed weight of the heap would undoubtedly produce that evil; but fuch is effectually prevented, by frequent removals, efpecially if rainy weather prevails at the time. Few objects deferve to be more fedulouſly attended to by every farmer who ftudies his own intereft.

The heap or pile, as already recommended, in the cafe of turnip dung, fhould be formed in a fecluded fpot, if fuch can be got at hand; becaufe, the lefs it is expofed to the influence of the fun and wind, fo much fafter will fermentation proceed. It fhould be conftructed on a broad bafis, which leffens the bounds of the extremities; and feveral feparate heaps are neceffary, fo as too much may not be depofited at once, which, to a certain extent, would bring on the very evil I have all along been endeavouring to avert. By fhifting the fcene frequently, and allowing each covering or coat to fettle and ferment, before laying on any more, the moft happy effects will follow, and thefe heaps (I mean all fuch as are completed before the firft of May) may reafonably be expected to be in a fit condition for applying to the fummer fallow fields, in the end of July, or firft of Auguft. If the external parts get dry at any time during the procefs, it is proper to water them thoroughly, and in many cafes to turn over the heap completely. I may add, that I have repeatedly experienced great advantage from laying a thick coating of fnow upon fuch heaps, as, by the gradual melting thereof, the whole moifture is abforbed, and a ftrong fermentation immediately follows.

I would continue the fame method of management during the fummer months, fo far as circumftances permitted, though it rarely

rarely happens that dung collected at this advanced period is fit for use in the same season, unless it be such as is made by keeping horses or cattle in the house, upon green food. Perhaps, as a general principle, it is proper to thrash out all grain before summer arrives, (a small quantity for litter and other purposes excepted) in order that the full value of the raw materials, when converted into manure, may be gained. Straw thrashed in the summer months, always wants a good deal of its original strength; it is broken and hashed by the mills, therefore a large portion must at once be thrown to the fold-yard, where its strength is still more exhausted and dissipated. Even when stacked carefully, it will be found next winter, to produce much less bulk of dung, than if it had been used at the proper time; and interest of the amount for one year is lost; all which things added together, will be found equal to one half of the original worth.

Upon large farms, where the management of manure is sufficiently understood and practised, it is an important matter to have dunghills of all ages, and ready for use whenever the situation of a field calls for a restorative. No method of application to clay soils, however, is so beneficial as during the year of summer fallow, though, in such situations, a greater stock of manure is often gathered than is required for the fields under this process.

After all, it must be acknowledged, that, under every exertion, it seldom happens that dung on clay farms, where turnips are not grown, can be so well prepared as upon those employed in the culture of that beneficial root. This has induced many farmers to cross nature, and attempt the cultivation of turnips, upon soils physically unfit for producing them with advantage; and perhaps, much money has been lost in carrying such schemes into execution. I am clear, that a clay land farmer, had better submit to all the disadvantages accompanying the preparation of manure in his particular situation, than try to get free of them by the culture of turnips. It is also a consolatory circumstance, that clay soils have a good digestion, they are not so nice in their food as gravels and sands, requiring only a good belly-full and frequent meals. It likewise deserves attention, that dung applied to a clay fallow at the end of summer, has full time to incorporate with the ground, before the crop, sown thereupon, stands much in want of its invigorating support, consequently, though of apparent inferior quality at the time of application, may, in reality, be possessed of equal powers for fructifying the ground, as if it had reached a higher state of preparation.

Allow me to notice the many instances of slovenly neglect, which I have witnessed in our sister kingdom, respecting the management of manure, particularly in the mid-land counties, where

where grafs hufbandry is extenfively practifed. In thefe diftricts, it is very common to ufe a conſiderable proportion of their hay in the fields, during the winter months, inſtead of conſuming it in the houſe or fold-yard, where the manure produced, could readily be collected, and properly cared after. Sloth and waſte are the parents of this cuſtom; a cuſtom which ought to be interdicted by every proprietor who is diſpoſed to regard either his own intereſt or that of the country, much of the article being abſolutely rendered uſeleſs by the feet of the beaſts ſo maintained, while the ground is moſt unequally and partially dunged; this at to ſay, the richeſt and drieſt parts are ſure to receive the greateſt ſtore.

In my next, I propoſe to trouble you with a few thoughts on the *application* of dung, a ſubject of much importance, though certainly ſecondary to the one which has at this time occupied my attention.. I am, Sir, yours, &c. ARATOR.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Letter from Sir George S. M'Kenzie, Bart. containing a few hints respecting the present price of labour in the Highlands.

SIR,

I WAS lately much ſurpriſed to find, that the eſtimate of a houſe and offices, on a very moderate plan, intended to be built on an improveable farm, exceeded conſiderably one year's rent of the eſtate of which it is a part. This inſtantly led me to conſider the very ſerious evils which have ariſen, in conſequence of country gentlemen not endeavouring, by a general agreement among themſelves, to lower the extravagant demands of workmen, and to check combination to raiſe their wages. While the price of building is ſo high, it is out of the landlord's power to give his tenant even ſuch accommodation as may be abſolutely neceſſary, without raiſing the rent to ſuch a pitch, as, together with the preſent coſt of every ſpecies of labour, totally to prevent the tenant from gaining a decent livelihood. But the greateſt evil ariſing from the exorbitant demands of maſons and other craftſmen in this country, is chiefly felt when waſtes are to be improved; for, in this caſe, no return can be expected for ſome years after improvement is begun, and conſequently the outlay of money in buildings, eſpecially on entailed eſtates, becomes a very ſerious buſineſs *. The expence of management, in a farm of any extent, has become enormous; but in ſmall ones, it is almoſt intolerable. I do

* The wages of maſons in Roſs-ſhire, and I believe in the neighbouring counties, equal what is given to the beſt hands in Edinburgh, viz. 3s, and 3s 6d per day.

do not intend to enter into the conſequences of this; I may ſay, however, that it is probable the ſyſtem of paſturage will increaſe, till ſuch time as corn becomes a ſcarce commodity. When corn becomes ſcarce, its price may induce farmers to break up their paſtures: But for the diſcuſſion of the manner in which the prices of meat and corn come to balance each other, and other points of political economy connected therewith, I have not at preſent leiſure; nor, if I had leiſure, have I ability. My principal object in troubling you with this letter, is, to propoſe, what I think would be a valuable addition to the Farmer's Magazine, to form which, I doubt not of your receiving very ample materials from your numerous readers and correſpondents: My propoſal is this, That, to the other valuable matter uſually contained in the Magazine, be added, a report from every county in Scotland, of the price of labour, not only in each individual county, but in different diſtricts of the ſame county. To this muſt be added, the prices of meal, meat, and bread.

In detailing the prices of the different kinds of labour, the prime muſt be diſtinguiſhed from ordinary hands, and the prices of piece-work ought to be noticed. All theſe might be reduced into the form of a table, which, if you approve of my propoſal, I leave for you to conſtruct in ſuch a form as ſhall be, in your own opinion, beſt ſuited to the ſize of the work.

It would be an inſult to your judgment and good ſenſe, to detail the advantages which the kingdom will derive from the exhibition of theſe reports. I will not therefore take up your time longer, than to expreſs a hope, that government will endeavour to obviate an evil, which, without great caution, will undoubtedly ariſe out of the magnificent projects for the improvement of the Highlands: That evil is raiſing the price of labour. If wages are given by government, higher than the average of the whole Highlands, the moſt ruinous effects will follow. I have made an attempt to have this hinted to thoſe appointed to manage the money already voted for the grand purpoſes alluded to; and mention the circumſtance now, that the evil, which perhaps may not have been thought of by many in their enthuſiaſtic eagerneſs for the accompliſhment of the Caledonian canal, and other undertakings, may be obviated by united precautionary meaſures. I am, Sir, your well wiſher and humble ſervant,

Coul, 20th Dec. 1803.

GEORGE S. MACKENZIE.

NOTE BY THE CONDUCTOR.

WE cordially agree with our reſpectable correſpondent concerning the evil attending the late enormous riſe upon the wages of

of Maſons and Carpenters, thinking it unfriendly to rural improvement, as new erections of every kind muſt thereby be impeded and diſcouraged. If that riſe can be ſhewn to proceed from illegal combinations among the work people, it might eaſily be ſtopped by putting the law in execution; but we ſuſpect that this is not its ſource. Perhaps the evil ariſes out of the circumſtances under which the country is placed, and cannot be removed ſo long as theſe continue to operate.

Our correſpondent, when mentioning the increaſed expence of buildings, might alſo have noticed the very great riſe which, in conſequence of the war, has taken place in the price of wood. This we believe, has occaſioned as much advance upon the expence of new erections, as the increaſed value of the workman's labour. A year's rent of an eſtate is a very moderate allowance for farm buildings, when new houſes and offices over the whole are neceſſary; but this charge is ſeldom repeated, ſeeing that the taſk of ſupporting them, at leaſt in Scotland, is uniformly born by the tenant.

We ſhall be happy to lend our aid in bringing forward a correct ſtate of the value of labour in every diſtrict, and requeſt that our reporters will kindly favour us with the neceſſary materials. At the ſame time we muſt hint that our ideas are hoſtile to every reſtriction upon the value of labour, from a conviction that perfect freedom ſhould ſubſiſt in every thing of that kind; and that, like trade, labour ought to be left to find its own level. N.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On Augmentation of Stipends in Victual.

SIR,

TILL the decision of the House of Peers, in the case of Milligan of Kirkden, about 30 years ago, it had been held as an opinion by the Court of Session, as commissioners for plantation of Kirks, and valuation of tiends, that an augmentation of stipend could not be given, unless a *century* had elapsed from the former one; and that of Kirkden being refused on this ground, the judgment was reversed on appeal, finding this objection alone not sufficient. But the house of peers certainly never dreamed that this judgment was to give a handle for asking augmentations so often as has been done since; for example, twice in an incumbency, often at no great distance one from another, and before the incumbent could be said to be old.

Before the 1748, when Scotland was freed from the vassalage she was under to her military barons, there was little money

ney in the country, and rent was generally paid in grain, services, and casualties: While this was the case, there was some reason for giving *victual stipend*, and when augmentations came so seldom about as once in a century, proprietors did not think of obtaining decrees of valuation and sale of their tiends; but now when the tiends of a whole parish are valued in money, and all the rents paid in it, I can see no *termini habiles* for the court to give victual stipend, but an unanswerable one why they should not. The clergymen, indeed, who, in the case of the augmentation of Kirkden, acted as one body, and consider themselves as such in every case of stipends, or manses, or glebes; finding that the proven tiend must ultimately bound their augmentations, have endeavoured to get the better of this, by asking the late augmentations in grain. But if in an year like this, when grain is low, the court should give within a few pounds of the proven tiend of a parish, by the decrees of valuation; and if years like the 1800, and 1801, or even a rise of 6d. or 1s. a-stone of meal should take place, the clergymen would obtain more than the proven tiend, that is, more than the law allows. It is therefore the interest of the heritors to oppose every claim of victual stipend in future, on this account, as grain, on an average of years, must rise progressively, although it may have some ups and downs; nor, as their tiend is valued *in money*, which is the fund for taking the stipend out of, can it, I apprehend, be given *in victual*, if objected to. That the exhausting the tiend is yet only matter of speculation, is no answer: In New Luce, Wigtonshire, the free tiends of the parish are already exhausted: In Terregles, county of Kirkcudbright, the locality was in agitation about the time of the last rise of grain, and it was found the sum modified would more than exhaust the tiend, part being in grain, if at the fiar conversion, and many others are fast approaching. The advantage of the late public scarcity to the clergymen who had victual stipend, was from 45l. to 145l. each, *per annum*, or 95l. each yearly, on an average. This too, often came upon tenants to pay, who had their own meal to buy, in the moor country; whilst every minister has four acres of good ground for a glebe, and many of them, where there were Kirklands, obtained a considerable deal more, as grass for a horse and two cows; or where it could not be said to be arable, four soums pasturage, for each acre of tillage land, and by the improvement of land, these are mostly all made arable, therefore they cannot be said to be unprovided for victual. As there seems no ground for giving victual augmentations, and as proprietors and farmers have now the facts before them, and know the intentions of the clergy, it is their own fault if they allow themselves to be taken by surprise. Yours, &c.

A——N.

The Writer of the following Paper considers the Farmer's Magazine as by far the most useful Periodical Work which has appeared in this country, on the subject of Agriculture. As there are above Four Thousand Copies of it dispersed over the Kingdom, he gave his MSS. to the Proprietor of the Magazine, who, in return, furnishes him with Copies, to be sent to Members of Parliament. If any Gentleman wish for more information, he will give it cheerfully, as far as he is able; and, as he has given his own name to the public, he hopes that those who differ from him in opinion, will also avow their names; or, if they write anonymously, that they will express themselves in temperate language. When men are united in their wishes to promote the good of the Public, differences in matters of opinion may be maintained with mutual esteem, and in the language of good humour.

FOR THE FARMER'S MAGAZINE.

A general view of the taxes on Malt, as imposed both in England and in Scotland. By George Skene Keith, D. D. minister of Keith-hall and Kinkell.

As it does not appear to me that the real merits of the dispute, respecting the proportions of duty to be paid for English and Scotch malt, have been properly understood, I shall endeavour, in this paper, to give a comprehensive and impartial view of the subject. For this purpose, I shall,

I. Give a short sketch of the history of the malt tax, as far as regards the proportion of the duty imposed on English, compared with that on Scotch malt.

II. State some facts respecting the different values of English barley, compared with Scotch barley, and with Scotch bear or big: and also of this last compared to Scotch barley.

III. Offer some remarks on taxing malt in general: And,

IV. Offer some remarks on the proportion of taxes that should be established between English and Scotch malt, whether from barley, or from bear or big.

After which, I shall give, in an appendix, a particular account of a number of experiments which I made last summer, in order to ascertain, by distillation, the comparative values of different quantities of malt, made from Scotch bear or big, and both from Scotch and English barley.

I hope, that if these different divisions do not enable me to exhaust the subject, they will at least assist the reader's memory, will point out to him where any particular topic is

handled, and will enable him to discover any error into which I have fallen from inadvertency, or inability; for I am not conscious of any misrepresentation, either in point of fact, or of argument. I am,

I. To give a short sketch of the history of the malt tax, as far as regards the proportion of duty imposed on English, compared with that on Scotch malt.

When the commissioners of the two kingdoms were employed in adjusting the terms of the Union in 1706-7, the taxes on malt, and malt liquor, gave rise to considerable discussion; and if the matter had not been compromised, or understood to be settled by the wording of certain articles, the Scotch commissioners would not have agreed to that treaty, which has been found so beneficial to both kingdoms. It is necessary to state concisely both the cause of the dispute and the nature of the compromise agreed to.

Scotland had been accustomed both to a malt tax, and to a tax on malt liquor, for nearly half a century before king William alone succeeded to the government, on the death of queen Mary. The tax on the ale, or malt liquor, was not generally complained of, being either charged moderately, or compounded for on reasonable terms by the publicans; for there were no common brewers in Scotland at that period. The tax on malt was very generally obnoxious, as it affected private families; not only from the amount of the tax, but by introducing excise officers into their houses, and because there was a very great disparity between the *barley of the lowlands, and the bear, or big, of the Highlands, or northern parts of Scotland. On that account, the Scotch parliament, in 1695, passed an act, by which the whole tax was imposed upon the liquor, and the malt altogether exempted. The advantages of this were experienced during the twelve years that elapsed from the passing of this act, to the union of the two kingdoms in 1707. Therefore, in negociating the treaty of union, the Scotch commissioners objected, *in toto*, to the imposing of any duties on malt, alledging, that the best Scotch barley was much inferior to that of England, and that the malt of the south of Scotland, made from the two rowed barley, was so very much superior to that which was made from the four rowed bear, or big, of the northern counties, that the Scotch parliament had given up all idea of taxing the grain, and had, for 12 years past, laid the whole tax on the liquor.

The

* The barley of the Lowlands was generally raised in the south of Scotland before this period, and Mr Meickle was sent to Holland to learn to construct a mill for making pot barley, then called French barley, only three years after the union, viz. in 1710.

The English commissioners felt all the force of this reasoning; but insisted, that as negociators for the union on the part of England, they could not legislate for the British parliament, as to any *mode* of taxation in preference to another, or as to any perpetual exemption of Scotch malt; or dictate what articles should not be subject to taxation. The Scotch commissioners could not deny the propriety of these arguments; but both parties were satisfied with the great inequality of a tax upon malt:—And the Scotch commissioners also insisted, that, from the poverty of their country, and the low price of ale in Scotland, they could not afford to pay so high duties as England.

To compromise the matter, and to prevent the treaty from breaking off, it was agreed that Scotland should be exempted from all *malt tax* during the then war with France; and that, as long as the then duties were continued in England, a tax of two shillings should be imposed on every 12 Scotch gallons of two-penny ale, or one eight part of the retail price of the liquor.

Independently of what is known by those who are conversant in the history of the union, or who were informed of many minute circumstances by the negociators of it, the words of the XIVth article of that treaty, afford internal evidence, that the above exemption, during the then existing war, was a compromise agreed upon to prevent the two nations from differing on this article. 'And seeing it *cannot be supposed* that the Par-'liament of Great Britain would lay any burden *but for the* 'good of the whole, and with due regard to *the abilities and cir-*'*cumstances* of every part of the united kingdom, therefore no 'further exemption *be insisted on* for any part of the united 'kingdom, but the consideration of the exemptions beyond 'what is agreed on, be left to the decision of the parliament of 'Great Britain.'

It was supposed that the malt tax in England would be taken off at the end of the war, and that the whole duty would be imposed on the liquor, as it had been in Scotland: This would have probably happened, if the same men had continued in power, who had promoted the union of the two kingdoms.

But those who negociated this treaty in 1707, had lost all their influence in England, before the conclusion of the war; and the Tory ministers in 1713, renewed the malt tax, after the peace of Utrecht was concluded. The tax which they imposed was 6d. per bushel. The malt committee at first agreed, that Scotland should pay only 3d; but when the northern counties of England, and the principality of Wales petitioned for a similar exemption, it was carried by *a majority of one*, that the

tax should be general over the island; though the Scotch members made a most strenuous opposition, and were supported by the most respectable characters in England.

This unfair procedure raised the greatest ferment in Scotland, and was one of the secondary causes of the rebellion which broke out next year. The farmers and others who made their bear into malt, refused to give notice to the excise officers, and even to grant them admission into their barns: the justices of the peace refused to act, and the whole amount of this high nominal tax did not, in many cases, pay the expence of collecting it. The clergy, who, by a declaratory act of the Scotch parliament, were exempted from all taxes on their stipends, and on the produce of their glebes, and who had never been charged for any malt tax before, in order to allay the ferment, stepped forward voluntarily, and paid small sums of money for the malt used in their families; and, in some instances, they succeeded in quieting the minds of the people: In others, they were considered as betraying the interests of Scotland, for fear of endangering the Hanoverian succession, or their own ecclesiastical establishment. Now that the spirit of party has subsided, it will not admit of a doubt, that the malt tax of 1713 was unjust and oppressive with regard to Scotland; and though it was said, in the 14th article of the treaty of union, that it was not to be *supposed* that the parliament of Great Britain would lay on any burdens but with due regard to the circumstances and abilities of every part of the united kingdom; yet, in six years after the union, the British parliament did *actually impose* a heavy burden upon Scotland, *without any regard to the circumstances of the case*, viz. the inferiority of Scotch grain, or the *ability of the people, in that part of the united kingdom*, to pay a tax, which in several places was nearly equal to the value of the raw article †.

The rebellion in 1714 and 1715, while it put an end to the hopes of the Pretender, also destroyed the influence of the Tories, who were rather unfairly confounded with the Jacobites. Therefore, when the annual malt tax was imposed in 1725, all that had been promised at the negociating of the union on the part of England was honourably fulfilled; and the British parliament, without any opposition, enacted, that Scotland should pay only 3d. while England paid 6d. on the bushel of malt. By this means, though Scotland did not obtain a total exemption from the malt tax, and get the whole duty imposed upon the malt liquor, it was now charged with only a reasonable proportion of the malt duty. And it was agreed, that all the

† The price of bear in Aberdeenshire, by the fiars of the county for 1712, was 5s. per Aberdeen boll, of 6$\frac{1}{2}$ bushels, or 6s. per quarter.

the produce above 20,000 l. should be laid out in improvements in Scotland.

On this footing matters continued till 1802, when, without the slightest struggle on the part of the representatives for Scotland, or making any distinction between the barley of the southern, and the bear, or big, of the northern counties, an additional tax of 12½d was imposed upon the bushel of malt, made in every part of Great Britain. Several small additions had been made to the malt tax since 1725, and some of these had been repealed; but the proportion of the rate of taxation had continued unaltered for 77 years, without any attempt to alter that proportion. So much for the history of the malt tax, as far as it regards the proportion of duty imposed on English, compared with that on Scotch malt. I now proceed,

II. To state some facts respecting the different values of English barley, compared with Scotch barley, and with Scotch bear, or big, and of this last compared to Scotch barley.

It is not to be denied, that many of the Southern counties of Scotland, do, on their improved lands, (hilly grounds excepted) produce as good barley as part of Wales, and of the three northern counties of England, on an average of seasons: and if, on imposing the very great additional tax of last year, no more duty had been laid on the malt made in these parts of South Britain, there would have been no objection from North Britain to be included in the same rate of tax with North Wales, or the North of England; though it would be more prudent to give orders to the revenue officers, to charge moderately in these districts, than to divide England into provinces for the purpose of taxation. But when the southern counties of Scotland are compared with the average of England, the difference is nearly four degrees of latitude, and three degrees of heat, in the medium temperature of the summer months; and it cannot admit of a doubt that Scotch barley is much inferior to English.

When it is also considered, that, owing to the increasing luxury and population of Scotland, much more wheat is now raised there than what was formerly produced; and that the dung which some years ago was generally applied to the barley, is now given to the wheat in several districts; it will be found, that our barley is often less abundant in quantity, and far less valuable in point of quality, than it was before wheat made a part of the farmer's rotation in the middle, or his principal object in the southern counties of Scotland.

Independently of what may be termed general reasoning, and with the exception of some unfavourable situations in England, and very favourable ones in some parts of Scotland, the dif-

ference between English and Scotch barley appears in the following particulars :

1*st*, English barley is generally weightier per bushel than Scotch barley is, by 3 or 4 pounds.

2*dly*, A certain number of grains, 100 grains for example, (from the size and better quality of each grain, or pickle, as it is called) of English barley, are, in proportion, more weighty than the same number of grains of Scotch barley, above what the comparative weights of a bushel of each kind amount to.

3*dly*, In the process of malting, there is more hull, or surface, exposed to the water in the cistern, and less farina in the Scotch than in the English barley—more of its substance is extracted by the steep water, or exhausted by the shooting of the acrospire in the lean, and more oblong grain of Scotland, than in the rounder, and more plump grain of England, on any given quantity, suppose a bushel, in proportion to the weight of each kind.

4*thly*, Owing to the English grain, in most cases, growing under a warmer sun, on a better soil, above a better, or more open subsoil, and either in a better exposure, or better sheltered by woods or hedges than Scotland is, even in the southern counties, there is not only more meal, or more pot, or pearl barley in a bushel of English, than in a bushel of Scotch grain, but when barley is malted, and made into ale or spirits by the brewer or distiller, there is much more saccharine, or extractive matter, consequently, more beer, or ardent spirits of a given strength, in a quarter of English, than in a quarter of Scotch malt.

5*thly*, The price of Scotch barley is at a medium much inferior to the price of English barley, which is a decisive proof of the inferiority of the former.

6*thly*, Scotland being a narrower country than England, and in a more northerly climate, has more rain, less sun, or dry weather, more bad harvests, consequently produces barley of inferior quality. It is owing to this that bear, or big, in many of the higher or more elevated districts of the lowlands, and in most of the Northern counties must be sown in place of barley, which does not ripen in time in those districts, except in very early seasons.

In every view, the barley raised in England is, taking the medium quality of the whole country, on an average of seasons, much superior to the barley which is raised in Scotland, compared in the same manner.

But if English barley be much superior to that raised in Scotland, it is still more superior to the four, or six rowed species of that grain, which is called bear, or big, and which is the only one that can be raised to advantage in the northern counties, and Highland districts of Scotland. Between the geographical situation and climate of England, and that of the

the northern counties of Scotland, there are, at a medium, five degrees of latitude, and four degrees of heat in the average temperature of the summer months, which produces a very great difference in the seasons of seed-time and harvest; in the process of vegetation; in the riches of the farina, in the thickness of the hull, in the ripening of the grain, and in its intrinsic value. The northern counties of England may be equalled by the southern counties of Scotland, but are far superior in point of climate, and almost every thing else, to the Highland, and northern districts of the island: and Scotch bear, or big, cannot be compared in any respect with English barley, except that it will grow and ripen on a soil, and in a situation and season, where the other would not at all, or very rarely succeed.

The differences between English barley and Scotch bear or big, are many and great: the following are selected as the most remarkable.

1*st*, English barley is not only much weightier per bushel, but even when less weighty, yields more meal or pot barley, still more pearl barley, and far more ale and ardent spirits.

2*dly*, English barley is more equally ripened, from the grounds being more level; and the size of every grain is also more nearly equal, a matter of great consequence to a maltster; whereas from the unevenness of the ground, and the declivity of hilly grounds exposed to the north, Scotch bear ripens very unequally, and the grains are very unequal in point of size.

3*dly*, At an average, ten grains of English barley weigh fourteen of the best Scotch bear, or big, seventeen grains of middling bear, and twenty-one of weak bear, such as is often found in Scotland in late seasons. Any person who looks at two stalks, one of the English two rowed barley, and the other of the four or six rowed bear, or big, will see this difference at once.

But, to put it beyond all doubt, the writer of this paper weighed a pound of English barley, another of the best Scotch bear, a third of middling bear, and a fourth of weak Scotch bear, the produce of his own glebe (or parsonage lands), and carefully counted the number of grains in each pound avoirdupois. The English barley contained almost exactly 10,000 grains in the pound, there being only 10,016 grains in all, of which 24 were of oats, that had grown among the barley: The pound of best Scotch bear contained 14,112; of middling bear, almost exactly 17,000 (only five less); and of weak bear, 21,248 grains. This experiment, which any one may repeat, puts the difference of the grains beyond all dispute.

4*thly*, In the process of malting, a quarter of English barley swells much more than a quarter of Scotch bear, or big, does,

while in the steep or cistern; and the malt is much better, because less substance is extracted by the steep water, and less injury done by the shooting of the acrospire where the grain is stronger, and where fewer grains are contained in a given quantity.

5thly, There is from the climate, soil, subsoil, and situation, much more liquor, much better flavoured ale, far more saccharine, or extractive matter, a more kindly fermentation, and a greater attenuation of the worts, or wash, from English barley, than from Scotch bear, and consequently a far greater quantity of spirits in the former than in the latter; although in England much more spirits could be obtained than are usually obtained by the English distillers, who use too strong wash, owing to the excise laws.

6thly, The price of English barley is always much higher, yet the price of bear is often enhanced in Scotland, by its being made into meal, in great quantities; and always a proportion of bear is made into meal in Scotland.

7thly, That, notwithstanding the high price which is further increased by the expence of importation, it was, in 1800, found to yield the cheapest food, because a quarter of it, when ground, made much more meal than the like quantity of Scotch grain of any kind.

While *the superiority of English barley to Scotch bear, or big*, is so very evident, a regard to truth and to impartial investigation requires that *the superiority of Scotch barley to Scotch bear, or big*, should also be noticed.

Here it may be remarked in general, that though English barley is no doubt superior to Scotch barley, yet the latter is, at an average of seasons, as much superior to Scotch bear, or big. It is weightier per bushel—in general more equal, both in point of ripening, and size of the grain—much larger bodied—swells more in the process of malting—less exhausted in that process—contains more saccharine matter—fetches a higher price in the market—and, in every view, a different species of grain, and more valuable, than either the four or six rowed bear or big, can be, in an average of seasons. These are facts generally known and acknowledged by every impartial man acquainted with the subject. The two following circumstances are not so generally attended to, if they be known at all, by many practical farmers.

In the lowland counties of Scotland, south of the Forth, barley grows to advantage, in the flat or loose soils, (except on a high elevation, above the level of the sea); while bear, or big, runs to straw in these more fertile districts. This fact was ascertained last summer, when the writer of this paper sent a quantity of Kildrummy bear to a friend in East Lothian, where it did not succeed,

ſucceed, owing to the above mentioned cauſe, though it was the beſt bear in Aberdeenſhire. The ſoil was too rich for bear.

On the other hand, in the northern counties and Highland diſtricts of Scotland, barley does not anſwer; it requires a finer tilth, —ſoil of a looſer texture, or more pulverized—is at an average of ſeaſons *one fourth part longer* on the ground than the bear, or big, before it is ripened (being from 13 to 18 weeks, while bear is from 10 to 14 weeks, till it is cut down) and requires a better ſoil, and land in better order. Indeed the difference requiſite in moſt ſeaſons for the growth and ripening of barley, renders it impoſſible to raiſe it to advantage in the northern counties, where the ſummers are ſhort, and the harveſts precarious. On theſe accounts, bear, or big, muſt in ſuch places be preferred to barley, as the ſureſt crop, though of, by far the leaſt value.

Barley, compared to bear or big, is like autumn wheat compared to that ſown in ſpring; in a remarkably fine ſeaſon, the difference may not be great; but on an average of ſeaſons, the difference is very conſiderable: A quarter of good barley in a bad ſeaſon is ſuperior to two quarters, and indeed ſometimes ſuperior to three quarters of bad, or froſted bear. In general it may be ſaid with truth, that if Scotch barley is to Engliſh barley as 5 to 7, Scotch bear, or big, is to Engliſh barley *one to two*, and to Scotch barley nearly as two to three; and it is as reaſonable to continue the old proportion of taxes, which ſubſiſted for 77 years, on all malt made from Scotch bear or big, as it is to make a difference betwixt Engliſh and Scotch barley. Indeed it would have been more prudent, for reaſons to be afterwards mentioned, to have continued the old proportion of taxes on all malt made in Scotland, whether from Engliſh or Scotch barley, or from Scotch bear, or big.

In a reſolution of a meeting of landholders of the different counties of Scotland, it is ſaid, 'As to bear, or big, the growth of 'the northern counties of Scotland, which is ſtill more inferior in 'quality than the barley, there are not ſufficient data as yet ob-'tained to aſcertain its proportion in the ſcale.' Is there not a botanical difference, and that a wide one, between the *two rowed* and the *four or ſix rowed* plant? Is not the ſize of each individual grain, (which contains only 10,000 grains in an avoirdupois pound, as in Engliſh, or from 11 to 12,000 grains, as in Scotch barley), widely different from the ſize of bear, or big, which at beſt contains 14,000 grains, at a medium 17,000, and ſometimes above 21,000 in the pound avoirdupois! Are not the greater weight of the buſhel of Scotch barley, the more equal ripening of the champaign fields of the Lowlands, the comparatively leſs injury done to this barley in the proceſs of malting, the greater quantity of ſaccharine, or extractive matter in its malt, and the greater aptitude to fermentation in its worts and waſh, and alſo the

the far greater proportion of ardent ſpirits when diſtilled from Scotch barley, deciſive proofs of its ſuperiority to bear, or big: and, beſides all theſe, do not the prices of each, from the competition at market, afford ſufficient data for fixing their relative proportions———In fact, there are *more* data for aſcertaining the proportional value of the bear, or big, of the northern counties, to the barley, either of England or Scotland, than for aſcertaining the difference of the Scotch from the Engliſh barley, whether, in point of value, or as being more eaſily diſtinguiſhed from the latter in all the proceſſes of malting and brewing. But the writer of this paper deprecates the method of dividing Scotland againſt itſelf, or of preferring the intereſts of one part of the kingdom to the other, and therefore, omits for the preſent, a minute analyſis of the printed reſolutions, from which this quotation was taken, though he may find it neceſſary at a future period to point out the differences of Scotch barley, as diſtinguiſhed from bear, or big.

On the whole of this branch, the proportional value of Engliſh and Scotch barley, and alſo of Scotch bear, or big, are not very different from that of white or refined ſugar, raw ſugar and molaſſes; and it will appear in the Appendix to this paper, that the writer does not uſe this compariſon merely as an alluſion, but that he has aſcertained the quantity of ardent ſpirits which he extracted from Engliſh barley, Scotch barley, and three different kinds of Scotch bear, or big, viz. very good, middling, and inferior grain. We now proceed,

In the IIId place, to offer ſome remarks on the taxing of malt in general, where that tax is very high on every ſpecies of grain malted.

As malt in Britain is made only from barley and from bear, or big, we ought here firſt to conſider, how far the raiſing of both theſe kinds of grain is favourable to an improved agriculture.

Wheat is a ſtrong tap-rooted plant; and being generally ten months on the ground, is a great ſcourger of the ſoil, which is alſo apt to get foul, unleſs it be drilled and hoed, or otherwiſe kept clean by weeding. Oats are alſo tap-rooted, though not ſo deep in the ſoil as wheat is, and remain for five or ſix months on the ground. The large leafy ſtalks prevent the circulation of air, or its free admiſſion to the roots of the different ſown graſſes. On all theſe accounts, barley, or bear, with graſs ſeeds, is neceſſary to an improved agriculture, and ſhould be uſed once in every rotation of crops. No friend to the general intereſts of the iſland will be an advocate for ſowing barley after wheat, without a green or black crop intervening, though this is often practiſed, both in the county of Norfolk, and in the three Lothians. But no diſcouragement ſhould be given to the ſowing of

of barley, either in England, or in the ſouthern diſtricts of Scotland, along with graſs ſeeds, as this is the beſt preparation for a rich crop of clover. And in the northern counties, or Highland diſtricts to diſcourage the raiſing of bear, or big, with graſs ſeeds, is to ſtrike at the root of all improvements in agriculture, in thoſe remote parts of the iſland, where ſuch improvements are yet in their infancy. No other ſpecies of grain, not even barley, will anſwer as a proper nurſe for graſs ſeeds; for in a late harveſt, bear is the only ſteady crop in places where wheat cannot be raiſed, where barley is often froſted, and oats are ſometimes deſtroyed by the inclemency of the weather. It is therefore obvious, that by impoſing a high tax on bear, or barley, which has the effect of leſſening the quantity of land laid down with that crop, or throwing either of them out of the courſe of cropping, our agriculture is deeply injured, even in good ſeaſons, while in unfruitful ſeaſons, and late harveſts, if the graſs ſeeds be ſown with oats, they are often choked by that crop lodging and rotting in the fields; and, on the other hand, the oats are either rendered unſerviceable, or are harveſted with very great difficulty, owing to the clover, or other graſſes ſhooting up, or being mixed with the ſtraw, or ſtalks of the oats. Hence in this part of the iſland, a great injury to improved agriculture would be occaſioned, by an injudicious, or exceſſively high tax on malt.

There are many other bad effects produced by too high a tax on malt, whether this be made of Engliſh or Scotch barley, or of Scotch bear, or big.

When the tax on any article, ſinks the price of the raw material of which it is made, as much, or nearly as much, as the tax amounts to, that tax is paid by the raiſer or owner of the raw material or rude produce, and not by the purchaſer; and therefore ſuch ought to be repealed or modified, except where it is the intention of the legiſlature to diſcourage the raiſing of the raw material, or the too great uſe of the article. In caſes where the raw material is one of the neceſſaries of life, or an article, the raiſing of which is eſſentially requiſite, a high tax on the raw material is one of the greateſt errors (it might ſeem harſh if we ſaid crimes) that can be committed by an ill informed ſtateſman, or ſanctioned by a well intending legiſlature. Yet it is certain, that the late very high tax on malt not only tends to check the improvements in agriculture by diſcouraging the raiſing of barley, and of bear or big, but that it has alſo the greateſt tendency to produce a ſcarcity in the firſt unfavourable ſeaſon. For let it never be forgotten, that in 1782, 1799 and 1800, the barley of the ſouth, and the bear or big of the north were the principal ſupporters of the lives of the common people of Scotland, who were not able to purchaſe flour (which often was not to be got in the interior diſtricts), and who could not have eaten the bad

oat

oat meal of theſe years, without a mixture of barley, or bear meal. Nay, it deſerves here to be remarked, that in 1782 and 1799, the crop of bear or big was in general good and well ſecured, or harveſted, in the northern counties; while the little barley raiſed, was much hurt or deſtroyed by the froſt; for in the north of Scotland, we have not climate to ripen barley in late ſeaſons. It was bear-meal alone, that ſaved the lives of our people in 1782, until peaſe came from England, and oats from the Continent, in the ſpring and ſummer of the following year. The diſcouraging, therefore, the raiſing of this crop cannot fail of being attended with the very worſt effects: It not only checks our improvements in agriculture, but may eventually produce a famine, or at leaſt a great ſcarcity of proviſions in the northern counties.

The happineſs of mens minds deſerves ſome attention, as well as the ſupport of their bodies. When the impoſing a tax produces provincial animoſities, or revives national jealouſies, that tax ſhould be either modified, or inſtantly repealed; for the affections of a free people are always of more value than any ſmall difference in the amount of a particular tax can be to that of the whole annual ſupplies. It would be improper here to dwell minutely on what ought to be ſtated with great delicacy: but it is not to be denied, nor can it be altogether concealed, that the late very high tax on Scotch malt, and eſpecially the alterations in the proportion of the duty on this, compared to Engliſh malt, and the ſeizing and carrying off the grain when not entered, have, in ſome caſes, produced an alienation of mind among the people, a want of confidence in their own repreſentatives, and a revival of ancient national reſentments, which the writer of this paper both laments and condemns. And he muſt obſerve, that although the Juſtices of the Peace will *not refuſe to act*, as they did in 1715, yet they will *not be very active* in carrying this unpopular law into execution; and that, whatever may be the produce of this tax in cities or large towns, it will be found in the country parts of Scotland, to have been productive of nothing but of ſuſpicions, diſguſts, and other ſentiments, which no friend to the general intereſt of the empire would chuſe to encourage.

On the whole, we would obſerve, the effects of a very high tax on malt, are, that it is injurious to improvements in agriculture, that it ſinks the price of a moſt valuable article, the raiſing of which ought not to be diſcouraged, as we depend very much upon it for our comfortable proviſion, if not the chief ſupport of the common people in calamitous ſeaſons; and laſtly, that the impoſing this high tax, and the alteration in the proportion of the duties on Scotch malt, joined to the ſeizing and carrying off all malt that is not regularly entered, tend to excite

cite ſentiments of diſguſt among the people. Enough has been ſaid as to the bad effects of a high tax on malt. We come now, in the

IVth place, to offer ſome remarks on the proportion of tax that ſhould be eſtabliſhed between Engliſh and Scotch malt, whether from barley, or from bear or big.

Here we would firſt conſider the proportion of taxes that can be properly impoſed upon rude produce, or raw materials, of different qualities.

There cannot be a greater error on the ſubject of taxation, than to ſuppoſe that a tax ſhould be exactly proportioned to the prices, or comparative values of rude produce, or raw materials. The tax ſhould always be conſiderably leſs on coarſe rude produce, or raw materials, than the proportion of the price of theſe, to that of the rude produce of raw materials of a ſuperior quality. The greater expence of ſea or land carriage, of warehouſe room, and labour, or the additional ſpace, time, and trouble employed in manufacturing or preparing it for the market, muſt always be taken into the account; and when theſe things are correctly ſtated, it will be found that the taxes on coarſe rude produce, or raw materials, ſhould be far leſs conſiderable than the mere difference of price between them and articles of a ſuperior quality.

Let us apply theſe remarks to the caſe of Engliſh and Scotch barley, and of bear or big. It is ſaid that Scotch barley is, at an average, to Engliſh barley, as five to ſix; and that Scotch bear is the ſame as four to ſix, or as two to three; therefore it is inferred, that the taxes on malt made from all theſe different qualities, or kinds of grain, ſhould be impoſed in the above proportions. It is really aſtoniſhing, that any man of good ſenſe, and eſpecially any wiſe legiſlator, ſhould reaſon in this manner: For although we ſhould grant the premiſes, the concluſion by no means follows. Is the carriage of the inferior grain by ſea and land, the malt-barn, the grain-lofts or cellars, the expence of the porter or day-labourer, of the maltſter, of the brewer, and his additional ſervants, who are employed in maſhing and brewing the inferior grain; in ſhort, is every ſort of expence, accommodation, time, and labour, before the wort is put into the copper, or into the cooler, to be conſidered as of no value? Suppoſe, for example, that a maltſter's annual expence, including tear and wear of machinery, intereſt of capital, rent of houſes, and the money price of labour of all kinds, to be 600l. a year; and that he malts only Scotch barley, and pays *five-ſixths* of the Engliſh malt-tax; or that he malts only Scotch bear, and pays but *two-thirds* of the Engliſh duty. Is it not obvious, that by not employing his capital, his machinery, and his different houſes and ſervants upon the moſt valuable ſpecies of

of grain, he loſes 1000l. a-year, if he malts only Scotch barley, or 2000l. a-year, if he malts only Scotch bear or big; becauſe he loſes all the difference of labour, intereſt of capital, rent or repairs of houſes, and tear and wear of machinery; or would have made ſo much more profit, if he had malted only Engliſh barley: It does not require much mathematical knowledge, far leſs great financial abilities, to ſee, that in the above ſuppoſition, the malt-tax on Scotch barley ſhould not be the *simple fraction* of five-ſixths, but the *compound fraction*, five-ſixths of five-ſixths; and that the tax on Scotch bear or big ſhould not be two-thirds, but two-thirds of two-thirds, or four-ninths of the tax that can be fairly paid on Engliſh barley. If the barley of the South of Scotland, as to its ſaccharine ſtrength and power of producing ale or ſpirits, be equal only to five-ſixths of the real value of Engliſh barley, it ought not to be taxed above two-thirds of the duty on Engliſh malt; and if the bear or big of the north of Scotland contain only two-thirds of the extractive matter which the ſame quantity of Engliſh barley contains, it ought not to be taxed above four-ninths of what is paid for malt of ſo much ſuperior quality. The fact here is, that the bear of Aberdeenſhire, at a medium of 30 years, is not quite two-thirds of the price, and does not contain ſo much as three-fifths of the ſaccharine, or extractive matter, contained in Norfolk barley, and ought not to pay above half the Engliſh duty.

Under this branch, viz. the proportion of taxes that ſhould be impoſed reſpectively on Scotch and Engliſh barley, and alſo on Scotch bear or big, we would next enquire into the danger of innovating or altering long eſtabliſhed rules in regard to the different proportions of malt-duty to be paid in England, and in Scotland.

Soon after the Union, as already mentioned, a violent ferment was occaſioned in Scotland, by impoſing the ſame malt-tax on both countries; and all the revenue obtained from this high nominal duty, which was chiefly obnoxious to the Scots, on account of its proportion to the Engliſh duty, did not, in Scotland, defray the expence of collecting it. To regain the affections of the Scots, and make a due allowance for the ſituation and circumſtances of that people, as well as to obtain ſome revenue from Scotch malt, which could only be made effective by a moderate tax, a proportion of duty, viz. one half of what was paid for Engliſh barley was fixed upon as the rate of taxation on malt made in Scotland, with the conſent of all parties; and continued unaltered for 77 years. During that period, very great quantities of Engliſh barley and malt-liquor were imported into Scotland, while very little was exported from the latter country into England, and that little, chiefly in ſeaſons when the harveſt (which happens very rarely) was favourable in Scotland,

land, but unfavourable in England. The arguments for eſtabliſhing nearly 80 years ago the proportion of malt-duties in the two countries, ſtill remain in force for continuing that proportion. Phyſical diſadvantages cannot be removed by political regulations, and the laws of climate are not to be altered by human legiſlators. Scotland ſtill lies between the 55th and 60th degree of latitude, while England is five degrees nearer the equator. Let the old proportion of the malt-tax be continued, while the climate is ſtill ſo northerly, and while the grain is ſo much inferior in point of quality, ripening unequally near the mountains or on the declivities of the hills, growing on a poor or comparatively cold ſoil, while England in general enjoys a happier climate, and its grain is much ſuperior, from its being raiſed in a level country, under a warmer ſun, on a richer ſoil, incumbent on chalk or marle, that may eaſily be converted into manure.

Independently of the argument, which arises from 77 years prescription, of the proportion of malt-duty, an important and happy change in the situation of Great Britain, renders it more expedient than ever, to adhere to the proportion of malt-tax that was established in 1725, from a liberal construction of the Articles of Union between England and Scotland.

We are now happily united to Ireland, and we ought to make allowances for the climate of that island, and the abilities and circumstances of its inhabitants, by not only a faithful adherence to the Articles of Union with that kingdom, but by acting up to the spirit, as well as to the letter of that treaty, and by a liberal conduct to the Irish nation. The late Lord Kilwarden (and I cannot quote a better authority) introduced a new code of criminal laws for the Irish; and justly observed, that, from the manners, character, circumstances, and situation of that people, the laws of England would, in many cases, be improper for that country. If *moral causes* affect the *penal laws* of Ireland, surely *physical causes* are still more powerful arguments for establishing in Britain different proportions of taxes on articles of unequal value. And if this difference in the rate of taxation has been established with the consent of all parties interested, it should not have been altered after 77 years experience of its good effects; at any rate, not without very strong reasons, and very minute investigation.

It would be improper to conclude this section, concerning the proportion of taxes that should be established between Scotch and English malt, without animadverting on a proposal which has been made to tax English barley when malted in Scotland, at the highest malt-duty, and to charge both Scotch barley and Scotch bear at five-sevenths of this duty.

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This proposal was made at a meeting of freeholders from different counties in Scotland, at Edinburgh, in April last, and makes part of the printed resolutions.

We have the best authority for saying, that, 'A kingdom divided against itself, cannot stand.' The Lowland farmer, or rather proprietor, according to the spirit of the above mentioned resolutions, wishes to tax English barley, if malted in Scotland, to the utmost extent, as if it had been malted in England. By this means he hopes to drive English barley, the price of which has already been increased by the expence of importation, commission, &c. entirely out of the Scotch market, where, from its superior quality, it has a constant or very general demand, and has always fetched a higher price than Scotch barley. In case, however, he himself should find that there is a scarcity of bear in the northern counties, he wishes to send his barley to them, and to obtain their whole supply, by the difference of the malt-tax between English and Scotch barley. While these are the objects of the interested Lowlander, the great distillers (who, by getting a principal part of the spirit-duty imposed upon the contents of their stills, have now, in a great measure, obtained the monopoly of Scotch spirits) hope to be able to purchase the bear or big of the northern counties at a low rate, for mixing, as raw grain, among the malted barley of the lowlands; because the bear of the northern counties is too lean a grain to afford to pay the high malt-duties, to which it would be liable if malted. By this means both the farmer and the distiller in the Lowlands would derive great advantages. On the one hand, English barley would be kept out of the Scotch market, by the expence attending importation, and by paying two-fifths more of malt-duty than Scotch barley, or 7d. where the other paid only 5d. On the other hand, the bear or big of the northern or highland districts, would be unable to pay five-sevenths of the English duty; therefore, the Lowland barley only would be used as malt, both by the brewers, and by the great distillers of Scotland, while the bear or big of the north was only used, as raw grain, to be mixed with the malt of barley, by the distiller, and bought at a very inferior price. Such is the union of interests in the Lowlands: But why is a vile, selfish spirit to be cherished in the breast of a Scotsman? What can we do for our country, if selfish passions, and local interests are thus to influence, not merely our secret actions, but also to appear in our public resolutions? When we come before the Legislature, in so questionable a shape, will they regard our complaints? Let all Scotland unite in one object, viz. to get the proportion of taxes continued on the footing

on

on which they stood for 77 years. We shall then stand or fall together. But if we divide into parties, if we be influenced by local interests, if we refuse (as this meeting did) to allow any of our countrymen to state facts expressed in decent * language, because it is not for our interest that the whole truth should be known, we shall then become a parcel of despicable counties, frittered down, and rendered contemptible, by our own selfishness; instead of being considered as a whole kingdom, commanding respect from the two nations, to whom we are happily united in one empire, and general legislature.

If English barley, however, is to be taxed, when imported into Scotland, Scotch barley should be subject to one rate of taxation, and bear or big to another. This, however, was not proposed in the general meetings held at Edinburgh last spring. The system of partition in Great Britain, as in the hopeful partitions on the continent, should have been accompanied by a scheme of indemnities. Viewing the matter coolly and impartially, it is the interest of Great Britain, and especially of Norfolk, and the other counties, that raise and export much barley, that the superabundant barley of England should find a market in Scotland, which does not supply itself in an average of years; and as the expence of carriage, commission, &c. is considerable, that it should pay no higher malt-tax than what is paid by Scotch grain. It is also for the general good, that the superabundant barley, whether of England, or of the southern counties of Scotland, should have free admission, on an equal tax, into the northern and Highland districts, provided the old proportion of taxes on English and Scotch malt is continued.

The writer of this paper would now, on this important subject, viz. the proportion of taxes on malt from English and Scotch barley, and from Scotch bear or big, humbly suggest a few hints to the members of the legislature, and earnestly offer a few advices to the people.

Will the legislators of this united kingdom be pleased to attend to what is submitted, with great deference, by one who wishes well to his country, and venerates its constitution?

Our happy island, in the course of last century, encreased greatly in opulence, from our industry, our insular situation, and our free constitution. But luxury is the attendant of na-

* Francis Farquharson of Haughton, as one of the Commissioners named by the County of Aberdeen, attended the meeting of landholders at Edinburgh; and was chosen one of the Committee named by

tional wealth; the comfortable subsistence of the people is the best species of luxury; and wheaten flour has been very generally substituted in the room of meal, which was made from oats or barley. About 60 years ago, the inhabitants of the midland counties of England, and a great proportion of the people of Scotland, subsisted partly, if not chiefly, on meal made from barley, and from bear or big. In the calamitous season of 1782, the lives of the common people of Scotland were in a great measure preserved, by using this species of meal. And in 1796 and 1797, and more generally in 1800 and 1801, the people of the midland counties of England, and a great proportion of the whole inhabitants of Scotland, returned to the use of barley and bear meal. From 1697 to 1801, Great Britain exported above eighteen millions (exactly 18,298,941) quarters of barley more than we imported. But, from the unfruitful seasons in the end of last century, we imported, in nine years, from 1792 to 1801, nearly eight hundred thousand (exactly 763,868) quarters of barley more than we exported. Yet, in the first year of plenty after the two last calamitous seasons, a tax was imposed upon malt, which, no doubt, tended to discourage the raising of barley; and, at the same time, the proportions of taxation between Scotch and English malt, which had subsisted for 77 years, were altered suddenly, and without proper investigation. Not long after, viz. next Session of Parliament, when there was a general dissatisfaction with this tax, and in one part of the island applications from all the people to restore the former ratio of taxation, another great addition was made to the tax, without the former proportions of malt-duty being re-established in North Britain. But it was declared that the inferiority of Scotch grain, and the consequent inability of the people, to pay the newly established proportions of malt-duty should be fully investigated; and ample redress was promised, if this new ratio of taxation was found to be unjust. In that declaration and promise, there is the fullest confidence. It is now submitted to your good sense, whether taxing malt at so high a proportion of its price, be prudent, even in the happier climate and situation of England; when you consider that it is only

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by them; and being the only member from that part of the country of which the produce is bear or big, he proposed to state the question of its inferiority to barley, in a secondary memorial, which he accordingly drew up. The Gentlemen of the south, agreed to receive this memorial at first, but they afterwards retracted that concession, and published their own memorial and resolutions, without regarding the interests of the northern counties, and upland districts.

only a few years since we imported very large quantities of barley,—that the barley and bear crops are of so great consequence to an improved agriculture, as well as our chief reliance in a calamitous season,—and that we were very lately obliged to offer high bounties, and to hold out high indemnifying security, to encourage importation. As the Scotch barley, and still more the Scotch bear or big, is so much inferior to the barley of England, even in a good season, as there is still a greater disproportion between these in unfruitful seasons and late harvests, when, from the inequality of its size, and ripening of the grain, Scotch barley malts unequally, and often a third part of the Scotch bear is carried away with the chaff, or skimmed off in the malt-steep or cistern; and farther, as an established proportion between the taxes on English and Scotch malt had continued so long, it is also submitted to you, whether the new proportions of taxation, which were introduced without a previous enquiry, should not be laid aside, and the old proportion, which has not only prescription, but reason, truth, and laws of climate, to support it, should not be restored. Let not the patrons of the agriculture of Norfolk, or any other English county, from provincial attachments, or local interests, (or rather from a false view of these interests, or ill founded prejudices), wish to check, far less to injure the agriculture of Scotland. It is not England and Norfolk, it is Great Britain and Ireland, that are now united by the closest of ties,—a national Union of Legislature and of Government. Jocky of Norfolk, be not too bold! Let no rash man attempt to oppose the general good of the empire. Let the old established proportions of taxation be restored; let the ties of affection only be increased by the Imperial Parliament of this united kingdom. Whatever may have happened above 90 years ago, when national jealousies had not subsided, and when party disputes run very high, it cannot be supposed that the Imperial Parliament will now, after mature enquiry, lay any burdens on the people, but for the good of the whole, and with due regard to the circumstances and abilities of every part of the united kingdom.

In the mean time, let me admonish you, my countrymen, to lay aside your unjust suspicions, your local attachments, and little animosities. Let me also request you to assert nothing but what is true, to ask nothing but what is right; to have confidence in your representatives, to submit dutifully to the laws, and to pay cheerfully those taxes which are necessary for supporting our free and happy constitution. Where you consider yourselves injured, represent with due respect the hardships under which you lie, from a very high tax, or from a late alteration in the proportion of your taxes, compa-

red with the sister kingdom; but do not propose that the produce of England should be kept out of your country, by a high malt-tax, under pretence of protecting your own agriculture. Remember, that the barley of England has often supplied you not only with drink, but with food, when made into meal, in calamitous seasons; and while you wish well to an improved agriculture, let it be to the agriculture of the united kingdom. If you behave with becoming respect; if ye speak truth, and act with liberality, there is no doubt that your legislators will grant you redress. But prepare, in a less oppressive way, to show your loyalty to your Sovereign, and to maintain the independency of the empire, by paying cheerfully those taxes which are necessary for the support of Government. Remember, it is one thing to pay a high tax, imposed by your representatives, as the price, the evidence, and the support of your liberty,—and another, to pay successive and arbitrary contributions, imposed by a rapacious enemy, as the evidence, the support, and the tribute of slavery. This is the conscientious opinion of

GEO. SKENE KEITH.

Manse of Keith Hall, Dec. 7. 1803.

APPENDIX.

Account of a series of Experiments made in Distillation, in June 1803, *in order to ascertain the comparative Values of English and Scotch Barley, and of Bear, or Big.*

IT is necessary to apprize the reader, that, in spring 1799, at the desire of the Scotch Distillery Committee of the House of Commons, the writer of this Paper conducted a series of experiments in distillation, from malt, raw grain, potatoes, and carrots. Owing to the uncommon inclemency of that season, he found it very difficult to effect a complete fermentation, even where the malt was pretty good, and impossible completely to attenuate the wash of malt that was made from weak bear. He discovered, at that time, that the using a proportion of roots, mixed with the wash, was very favourable for promoting the fermentation and attenuation. In a second set of experiments, made in 1802, under the authority of the Commissioners of Excise, he distilled a great variety of roots, and marked their different powers in promoting the attenuation of wash; and also their comparative quantities of extractive matter, and the qualities of their essential or flavouring oils. In conducting these experiments, he discovered a mode of effecting a complete fermentation, or attenuating the wash

wash to O, as marked by the saccharometer, by mixing a certain proportion of a very common root, prepared in a particular way, among the wash, or fermented worts, in a particular stage of the fermentation.

This year, 1803, he repeated his experiments upon several kinds of roots; and having transmitted the substance of the above paper, concerning the malt-tax, to a Member of Parliament, in order to verify his reasoning on the comparative values of English and Scotch barley, and also of Scotch bear or big, he entered upon another series of experiments in distillation.

With this view, he first malted 12 bushels of the weakest bear, weighing only 36 pounds per bushel, or 12½ stones per Linlithgow boll. This bear was produced on his own glebe, (parsonage lands), on a field which was in very high order, and (on that account) had suffered much from the stormy weather in the middle of May, and from the very severe frost on the 13th of September, 1802, which checked its growth, and rendered the grain of a lighter quality, and much smaller size than it would otherwise have been; but did not in the least degree injure the germ, or hurt its powers of vegetation; for it made good seed, and malted perfectly well, though the malt was weak. He selected this kind as a proper specimen of what Scotch bear or big is in late seasons, and had it malted under his own eye. He next malted a quarter, or eight bushels of bear, also the produce of his glebe, which was of a middling quality, weighing nearly 14½ stones per boll. He selected this quality of grain, because it was of the precise weight of middling bear (42 pounds per bushel), by the corn act of 1791.

Afterwards, in order to get the best bear that Aberdeenshire produced last season, he applied to Messrs Black and Company, brewers in Gilcomston, by Aberdeen, and he obtained six bushels of uncommonly fine malt, made by their maltster, Thomas Pickman, an Englishman, from bear which weighed 46 pounds per bushel. The malt had come out, in the process of malting, only 4 per cent. and the bushel of dried malt weighed 40 pounds, 8 ounces.

From the same gentleman he also obtained six bushels of malt, from Scotch barley, which had come out 14 per cent. in the process of malting, rather too much for the purpose of distillation. The six bushels weighed 225 pounds of dried malt, or 37½ pounds per bushel; and the barley weighed 48 pounds, when unmalted, or 2 pounds more than the best bear weighed, per bushel.

Lastly, He procured from Messrs Black and Company, first,

six bushels, and then three bushels, of very good malt, made from English barley, that weighed 51 pounds per bushel. The first six bushels were ground on a steel mill in the country, and weighed, before being ground, 257¼ pounds averdupois, or 42 pounds, 14¼ ounces per bushel. The next three bushels, or 128½ pounds of ground malt, were made from the same barley, and at the same time; but Messrs Black and Company were so obliging as to grind them on their own mill, which was a great advantage. A quantity of the wash extracted from the first six bushels, overflowed the fermenting tun, when the writer of this paper was obliged to be absent a few hours; which occasioned him to repeat the experiment with other three bushels of this excellent malt, ground in the best manner. This malt had come out 9 per cent. in the process of malting.

He shall now state the results of these experiments, both as to the quantity of spirits contained in the boll of grain (in the two first cases), and in that contained in the boll of barley or bear, in the four last experiments. For, without stating in these cases, both the quantity produced from the boll of malt, and what must also have been produced from the boll of grain, the comparative values of all these different kinds, can not be accurately ascertained.

1st, The 12 bushels of weak bear, that weighed 36 pounds per bushel, produced exactly 12½ English wine gallons of proof spirits. This is 6¼ gallons of proof spirits, or 5$\frac{7}{10}$ gallons of spirits, 1 to 10 above hydrometer proof, from the boll of 6 bushels.

2dly, The middling bear produced 11¾ gallons of proof spirits, from the quarter, or 8$\frac{1}{10}$ gallons, from the boll, 1 to 10 above proof.

3dly, The malt from the best bear produced 12$\frac{4}{10}$ gallons, from the six bushels of malt. This is 12¾ gallons of proof spirits, from the boll of bear, or 11$\frac{5}{8}$ gallons, 1 to 10 over proof. It is here a very curious fact, that a bushel of bear or big, weighing 46 pounds, should produce almost exactly double the quantity of spirits, that weighed only 36 pounds.

4thly, The six bushels of malt from Scotch barley, produced 13½ gallons of proof spirits; and, after allowing for what it had come out in the process of malting, the produce from the six bushels of Scotch barley, is 15$\frac{3}{10}$ gallons of proof spirits, or exactly 14 gallons of spirits, 1 to 10 over proof. The superiority of malt made from Scotch barley, is here very evident; for 225 pounds of this malt, though it had come out a little too much in the process of malting, yielded above a gallon of more spirits than had been obtained from 243 pounds of malt made from the best bear. But the progressive increase

crease of the quantity of spirits was still more conspicuous in the English barley.

5thly, The first quantity, viz. six bushels of malt from this barley, yielded 14½ gallons of spirits, 1 to 10 above proof, or 15¼ gallons of proof spirits; and, as the malt had come out 9 per cent. in the process of malting, the six bushels of barley would also have produced very nearly 15¼ gallons of spirits, 1 to 10 above proof. But, as above mentioned, a few gallons of the wash were lost in overflowing, through the inattention of a servant, and the malt was ground only on a steel mill: Therefore the experiment was repeated.

6thly, The second quantity of English malt, viz. three bushels, was brewed with the utmost care, and was much diluted, and particularly attended to in the whole process, in order to ascertain how much spirits could be produced from half a boll of good English barley, properly malted, brewed, diluted, fermented, and distilled. The produce was 8¼ gallons, or 19 Scotch pints, 1 to 10 above proof. As this quantity was more than this writer had ever seen, or even heard of, as being obtained in Britain from this weight or measure of malt, (he has heard of as much on the continent, when great dilution was used), he measured the spirits in the presence of three witnesses, first by the English gallon, and next by the Scotch pint.

It is only necessary here to state, as one cause of the great quantity of spirits produced, that he mixed, in a particular stage, one bushel of a very common root, prepared in a particular manner, with the wash of every 12 bushels of malt, (except in the last case, where he had only one-sixth of a bushel of that root remaining, to mix with the wash extracted from three bushels), and that, in every case, his wash was attenuated to 0, or completely fermented, and rendered as light as water, before it was put into the still. And he has no doubt that, if the wash were much diluted, and attenuated properly, by a small mixture of the above root, or of any other root whose fermentative life is shorter than that of the wash into which it is put, a much greater quantity of spirits would be generally obtained; perhaps ¼ more than is usually obtained from the quarter of grain, by most of the distillers in Britain.

The following is a short comparative view of the quantity of spirits 1 to 10 above hydrometer proof, obtained from the specified quantities of bear, in the two first cases; and in the four last, of the quantity of spirits actually obtained from the malt, and what would have been obtained from the boll of the grain, allowing for the increase of measure in the process of malting:

1. Bear of 36 lb. per bushel; the malt of 6 bushels, yielded 5.7 gallons.
2. Bear of 42 lb. per bushel, or middling bear, ditto yielded 8.1 gallons.
3. Best bear of 46 lb. malt, yielded $11\frac{1}{3}$ gallons; bear, at this rate, 11.66 gallons.
4. Scotch barley of 48 lb. malt, yielded 12.3 gallons; barley, at this rate, 14. gallons.
5. English barley of 51 lb. malt, yielded $14\frac{1}{3}$ gallons; barley, at this rate, 15.75 gallons.
6. Ditto, three bushels of malt yielded $8\frac{3}{4}$ gallons; a boll of barley would yield 18.66 gallons.

N. B. Experiment, No. 5, lost a quantity of the wash, by overflowing, and the malt was ground only on a steel mill, and not so much diluted as the 6th or last experiment.

From the above experiments it appears that weak Scotch bear is to good English barley very nearly as 1 to 3, or at the utmost as 2 to 5, from the medium of the two last experiments; that middling bear or big is to English barley as 1 to 2, or at the utmost as 3 to 5; that the best bear or big is to the same as 2 to 3 very nearly; and that Scotch barley is to English barley weighing 3 pounds more per bushel, as 3 to 4.

If no other attenuator than yeast had been applied, the superiority of English barley over all the other species of grain would have been still greater. But, as the writer of this paper had discovered a mode of completely attenuating the wash extracted from even the weakest grain, he thought it but fair and candid to treat them all in the same manner by mixing a proportion of roots as above mentioned, at the rate of one bushel of root, to every 12 of grain, although it is obvious that this gave a small advantage to the grain which was inferior in point of quality.

On the whole, it is doing no more than justice, to restore the former proportions of taxation that subsisted so long between English and Scotch malt. Indeed, it is well known that the bear or big of the northern counties, could not afford to pay half the tax imposed upon English malt in many late seasons, and that when any officer of the Excise, particularly, when a superior officer or supervisor, who was a native of the south of Scotland, came to a district or division in this county, he always charged the malt tax very reasonably in the country districts, on account of the great inferiority of the grain. The writer

writer of this paper can appeal to all the collectors, supervisors, or surveyors, belonging to the south of Scotland, to bear witness to the truth of this assertion; and he wishes that Scotland should pay a fair and reasonable proportion of the public taxes, but no more than this proportion.

P. S. Since this Paper went to the Press, the Writer of it has been informed that a Series of Experiments are just now carrying on at Edinburgh, in order to ascertain the comparative values of English and Scotch barley, and of bear or big. From the character of the able chemists, to whom the conducting of these experiments has been committed by the Highland Society, a fair and full comparison is to be expected, of what different kinds of grain are submitted to trial. But the Writer of this Paper must observe, that, from the uncommonly dry season, and early harvest in 1803, all Scotch grain, whether barley or bear, will be at least 15 per cent. better than its average value; and that all the inferior grain of 1802 has been made into meal, or given to black cattle or horses, being really cheaper than oats; and only the best bear of 1802 now remains unmalted, or unground. So that the trial will be unfavourable to Scotch barley, and still more to bear or big. G. S. K.

FOR THE FARMER'S MAGAZINE.

On the Husbandry of Ayrshire.

The County of Ayr is of great extent, reaching from within a mile of Cairn at Lochryan to Kelly-bridge, within twelve miles of Greenock; a ſpace of about 64 miles in length, and which is in many places conſiderably above 20 miles in breadth, forming a beautiful ſemicircle along the ſhores of the Firth of Clyde. It is divided into three diſtricts, Carrick on the ſouth, Kyle in the middle, and Cunningham on the north; and is upon the whole a rich fertile country; there are few more ſo, perhaps, in Scotland of the ſame extent.—The whole of this extenſive land may be ſaid to be a tillage country, with the exception of a very few pariſhes in Kyle; rather more than the half of Carrick, and ſome of the ſkirts of Cunningham, along the weſtern verge of the county of Renfrew. In theſe three diſtricts the ſoil varies conſiderably in its quality, nature points them out as requiring a different management.

The diſtrict of Cunningham, which is ſeparated from Kyle by the river Irvine, and is generally conſidered as the richeſt of the three, is almoſt one widely extended plain of good land, where, though

though there is no doubt a conſiderable mixture of clay, yet what is called loam more generally prevails; at leaſt more ſo than in Kyle, which is almoſt univerſally a ſtiff clay; and in both, the ſoil lies upon a bed of till, of many fathoms depth, totally impenetrable by water. In Carrick, (which is ſeparated from Kyle by the river Doon,) the ſoil in general is more of a light and free nature, what is uſually called a hazel mould, lying upon a rock or gravel bottom. The two firſt ſeem more adapted for frequent aration, producing weightier crops of grain; the latter for cattle paſture.

Throughout this whole county, much, no doubt, has already been done in the way of improvement, but much yet remains to be done, to bring it to that ſtate of perfection of which it is evidently ſuſceptible.

Before giving an account of the ſtate of agriculture in this county, ending with the year 1803, I have a great inclination to give you a ſhort ſketch of the hiſtory and progreſs of agriculture therein. The hiſtory of improvement in every county in Scotland, the means by which it has been accompliſhed, the moſt approved practice, with regard to tillage, manure, rotation of crops, &c. with the general and particular effects of all thoſe upon ſociety, and upon proprietors and tenants, theſe are highly deſirable, not only as matters of curioſity, but as ſubjects of uſeful ſpeculation, to be treated of in your Magazine, and conducing to ſtill greater improvement than has yet any where been attained. This view of the subject is of ſuch magnitude and importance, that it requires a founder head and more experience than I profeſs, to treat it as it ought to be. But having been accuſtomed to obſerve the ſtate of this county at leaſt for 40 years paſt, and poſſeſſing ſome knowledge of the principal facts which led to its preſent ſtate; I ſhall as briefly as I can, give you the hiſtory of Agriculture during that period; and then ſuggeſt a few things which, in my opinion, would tend to its future melioration.

About 40 or 43 years ago, there was little improvement in this county of any kind. The land indeed was ploughed, in order to raiſe food for man and beaſt, but that was nearly all that was done. As far as the eye could reach, there was not an incloſure to be ſeen, except immediately round gentlemens houſes. The half ſtarved cattle were herded through the day, and incloſed in folds or houſes at night, till the crop was lifted, when they were allowed to roam at large. The old barbarous cuſtom of out-field and in-field was univerſal: The produce was ſcanty: the rent trifling, and the capital of agriculturiſts next to nothing. Land which now ſets from 2 to 3 pounds an acre was then thought ridiculouſly extravagant at 7s. and 7s. 6d. And, to add

to

to this ſtate of miſery, there was ſcarce a road in the whole county where one could ſtrike a trot in the middle of June; of courſe few or no carts or waggons could be uſed. I well remember, that in travelling on horſeback, in the beginning of the year 1761, with a certain Rev. Gentleman, we came to a bit of ground that was a little more hollow than the ſurrounding ſurface, and where a little water muſt run after a ſhower, but which was then as hard as the heat of the ſun can render ſtiff clay; he ſuddenly alighted, and when I enquired, with ſurpriſe, what was the matter, he replied, "This was a bad ſtep in winter." This ſo naturally ſuggeſted the well known ſtory of Kirkwood and his man, that I could not help being much amuſed; I mention it only to ſhow the ſtate of the roads within the county at that time. In ſhort, there was next to no capital, no incloſures, no regular or fixed plan of cultivation; the produce of land was only trifling, compared to what it is at preſent, and roads were barely paſſable. I cannot better deſcribe the ſtate of the country than in the words of the late worthy Mr Robertſon, one of the miniſters of Kilmarnock, in his ſtatiſtical account of the country part of that pariſh, and which, with a very little variation, will apply to the whole county of Ayr at that time. 'About 35 or '40 years ago, no incloſures were to be ſeen, except, perhaps one 'or two about a gentleman's ſeat, in all the wide extended and 'beautiful plain of Cunningham. Hence, at the end of harveſt, 'when the crop was carried from the fields into the barn-yard, the 'whole county had the appearance of a wild and dreary common, 'and nothing was to be ſeen, but here and there, a poor, bare, 'and homely hut, where the farmer and his family were lodged. 'The cattle too were then allowed to wander about at pleaſure 'through all the neighbouring fields, till the graſs began to riſe in 'the ſpring, and miſerably poached all the arable ground, now 'ſaturated with the water that lay on the ſurface. To ſuch a 'degree was this miſchief done, by the ranging of the cattle in 'ſearch of food, when none was to be found, that, in many pla-'ces, it deſtroyed all proſpect of any crop, worth the labour of 'the huſbandman, for the enſuing year: and in ſome inſtances, for 'many years to come.'

In ſuch a ſtate as this, it is a happy thing for a county ſo capable of improvement as that of Ayr, where the means can be eaſily attained, that ſome enlightened and ſuperior geniuſes appeared, poſſeſſed of ſufficient ſkill and influence, to direct the application of them. The county of Ayr contains within itſelf coal and lime in abundance in almoſt every corner. Beſides these natural advantages, a banking company was erected at Ayr, which was ſoon ſucceeded by the celebrated Douglas and Heron Bank, now gone into oblivion. The latter, however ruinous

ruinous it ultimately proved to many individuals, was a great benefit to the county at large; for, from the eaſe and readineſs with which it furniſhed credit to almoſt all deſcriptions of people, it enabled both landlords and tenants to take advantage of their ſituations in a manner which they could not otherwiſe have done. They procured money from the bank, and laid it out upon the improvement of the county with the utmoſt eagerneſs and liberality. Every one ſeemed to be rouſed into new life; entered the liſts with the utmoſt keenneſs, and contended with each other for the prize of honour and profit. I forbear to mention the names of many who took the lead in this noble cauſe, leſt I ſhould do injuſtice to others equally deſerving. Only as Col. Fullarton, in his agricultural ſurvey of Ayrſhire, has mentioned one venerable gentleman, (who is ſtill alive,) to whom the county is ſingularly indebted for its improvements, neither he nor the other reſpectable gentlemen of the county can take umbrage that I follow ſuch good authority as that of Col. Fullarton.

Mr Fairly of Fairly, poſſeſſed a conſiderable property of his own, and was beſides Commiſſioner over the extenſive and fertile domains of the Earl of Eglinton. I quote the Colonel's account from memory, and, if I rightly remember, the method Mr Fairly adopted, was this: He took the whole of his property into his own poſſeſſion as ſoon as the tacks expired, incloſed, ſubdivided, and limed it at pleaſure; and as ſoon as he had accompliſhed theſe things, ſet new leaſes of it under reſtrictive plans of cropping and management. And having the like power of direction and controul over the eſtate of Eglinton, he preſcribed the ſame plan of cropping and management in every new leaſe. His ſyſtem was eſteemed ſo judicious, that it was readily and rapidly followed by almoſt every other proprietor in the county.

Though reſtrictive clauſes in leaſes, which fetter the hands of tenants, and prevent them from cultivating the ground to the beſt advantage, cannot be too much reprobated in an advanced and enlightened ſtage of agriculture, yet, when tenants are ignorant, and comparatively poor, it is problematical, if it is not wiſe and prudent both for proprietors and tenants, to bind them down for a time, to follow a certain plan. Ignorance, prejudice, ſelfiſhneſs, and ſtraitened circumſtances are formidable antagoniſts to encounter. However this may be, the cuſtom adopted was a 19 years leaſe, confining the tenant to three crops after liming, without ſaying what theſe crops ſhould be, and the land to remain ſix years in graſs before it was broke up again; ſo that during the whole courſe of a 19 years tack, a tenant could have no more than 7 crops of grain from his farm.—Theſe regulations would not

not have been ſufficient without another very eſſential one which took place ſoon afterwards, and that was an application to Parliament about the year 1774 or 75, for an act to commute the ſtatute labour, and to oblige the tenants to pay 1l. 5s. out of every 100l. Scots of valuation, for making and keeping the roads through the county in repair; and for erecting turnpikes. The conſequence of this was, that, in a very ſhort ſpace, moſt excellent roads were made in all directions; and it may now be ſafely aſſerted, that there is perhaps no county in Scotland better provided with good roads than the county of Ayr. The beneficial effects of theſe arrangements were ſoon very conſpicuous. The county which Mr Robertſon juſtly termed 'a 'wild and dreary common,' aſſumed an entire new face. It ſoon was every where incloſed, and in the lower parts with ditches, which acted as drains to the ſtrong clay and level lands, hedges, and hedge-rows, and belts were planted, both for fences, ſhelter and ornament; and the vaſt proportion of land ſown down every year with rye-graſs gave a beautiful verdure to the face of the country, which in poetical language might be ſaid to cauſe it to ſing and rejoice.

Were a perſon, who had long been accuſtomed to contemplate 'this wild and dreary common,' and its wretched inhabitants, both men and beaſts, now to ſtand upon an eminence; to look around, and ſurvey the beautiful plains of Kyle and Cunningham, with a conſiderable part of Carrick, all under his eye, to ſee the hedges, belts and clumps of planting riſen to conſiderable height, the fields brought into regularity and order, and ſpirit and activity every where diſplayed upon ſomething like ſyſtematic principles, it would afford to him one of the moſt beautiful views imaginable,—it would be the renovation of youth;—nothing more delightful can be conceived, except a country where agriculture is carried on in a better ſtyle, and where ſomething of real ſyſtem univerſally prevails. We have not yet completely attained to that better style; much has been done, but we are far, very far, behind theſe happier climes.

The progreſs of agriculture in this county, during the ſpace of the ten years laſt paſt, has been accelerated in a conſiderable degree. This is perhaps owing, in a great meaſure, to the ſituation of the country during that time. The laſt war in which the nation was engaged, doubled, at leaſt, the national debt; but the character of the nation, roſe in eſtimation among the other powers of Europe; and the conſtitution being eſtabliſhed upon ſuch a firm baſis, gave entire ſecurity to all the debt we had contracted. From this ſtate of internal ſecurity; from the aſcendency which we had acquired in the proſecution of the war, and the immenſe floating capital which had been

been created, the trade, manufactures, and general improvement in every art and science attained to an eminence hitherto unknown. To supply the demands of capital and circulation, banks, and branches of banks were multiplied. The effect of this upon agriculture, as well as other things, must at once appear evident.—This mass of national as well as private circulating capital, by depreciating the *value* of money, tended to enhance the value of produce. Hence farms were looked upon as being of more consequence than formerly; the value of landed property was doubled, and trebled; farms were eagerly sought after; farming became the mode; it was considered as a fashionable and necessary part of genteel education; in so much that a gentleman who knew nothing of farming, and could bear no part in conversation respecting it, would have been looked upon with contempt. Gentlemen did not now, as formerly, prescribe rules and regulations, and look on in silence to see them executed; they took an active part in farming themselves. They endeavoured to procure the best information, and led the way in farming after the best and most approved methods. Many worthy public characters in this respect might be named, but I forbear to do it, least others should be omitted who are equally meritorious. In general, it may be safely asserted, without giving offence to any, that I know very few landed proprietors at present who do not farm more or less, and recommend by their example, at least, the newest and most approved methods of farming. Whether it be owing to their example, or to the sensible conviction of its utility, certain it is, that the new, or turnip husbandry has begun to spread within the period above-mentioned. And it is to be hoped that the same benign influence which has encouraged it, will still continue to foster and cherish it, till every corner of our rich and beautiful country, shall be as fully improved as the respective soils and situations of individual places will admit.

I look upon this immense national and individual floating capital, within these last ten years, occasioning the great advance upon the value of farm produce; together with the business of farming becoming a genteel and fashionable study, and real farmers being regarded with more respect than formerly; I look upon all these collectively as the prime causes which have accelerated the progress of agriculture in this county within the space of ten or twelve years. Farming societies are now set up in different places. Farmers are led to vie with one another in honour and profit, in the management of their farms. Good ploughing is encouraged and recommended, by premiums to the best ploughman. The best

and

and most approved implements of good husbandry, are coming daily more into use; not only threshing machines, fanners, and ploughs, but the necessary implements for drill husbandry.

With the spirit and activity now exerted, notwithstanding the restrictive regulations above mentioned, and which yet too much prevail, this county produces a great quantity of grain; a great deal more than is requisite for the internal consumption. The grain chiefly cultivated is oats, which may be called our staple commodity, though in almost every farm there are more or less raised of other crops; such as bear, barley, wheat, pease, beans. But, except in a few farms here and there, there is nothing like a just, regular, and scientific rotation of cropping.

The picture which I have drawn of the shire of Ayr, is, to the best of my knowledge, just; and it may be viewed as encouraging and delightful in a high degree; it is at least so, compared with what it was within the memory of many persons living: Yet when I consider the quality of the soil, the great extent of arable land, its means and capacity of improvement, and its situation for readily disposing of all its disposeable produce, I consider it as being little more than in its infancy of improvement; at any rate, as far from having reached that high degree of cultivation, which it will undoubtedly, at no very distant period, attain.

If my ability equalled my inclination, I would gladly point out such things as are necessary to accomplish that desireable end. It is an easy matter to pick out faults, or point out deficiencies; any blundering blockhead, or rash empyrick, may do this; but it requires mature wisdom and great experience to apply a proper remedy. There are certain general principles necessary to promote and encourage perfect cultivation, that are now well understood, and for the most part readily assented to, which a person of limited experience may easily point out; and it is the part of both masters and tenants to endeavour to reduce them to practice, in as far as circumstances will permit. Some of these principles, as immediately applicable to proprietors, are such as follow:

1. That in every case where it can be done, a preference should be given to tenants of judgment, capital, and experience.

2. That tenants should be rendered free and independent of all restrictions and servitudes of every kind, except a few necessary regulations, during the last two or three years of their lease. Like all other men in society, they should be allowed to manage their affairs for their own advantage, according as their judgment and experience, and the nature and situa-

tion

tion of their farms may point out. Where a man's interest is deeply concerned, if he is a man of sense, you may safely trust him with the management of it: And in farming, particularly, I think it may be nearly laid down as an axiom, That if a tenant manages well for himself, he can scarcely manage ill for his master.

3. That farms should in every case become as much a mercantile commodity as any thing else. In other words, assignees and sub-tenants should be allowed; justice and equity immediately suggests the propriety of granting this, and a hundred cases might be supposed to shew the cruelty, injustice, and inhumanity of refusing it. It may be asked, What good can it do to a proprietor to refuse it? The common answer is, that he is thereby deprived of the choice of his tenant: Let him lay down just and reasonable stipulations in the tack, and bind the original tenant, if he pleases, to be forthcoming to him for the rent, and it is a matter of very little moment who is tenant. The stipulations must be performed, and the rent must be paid, whoever is tenant; and he cannot get sixpence more rent during the currency of the tack, whether he allows of assignees and sub-tenants, or not. During the rigour of the feudal system, there was a good and necessary reason for the choice of a tenant, when he was liable to be called out to fight the battles of his lord: The strongest man was then the best tenant. Thank God these days are past, and it is now of very little consequence, whether a tenant be five feet high, or six; whether he be a black man or a white; whether his name be Peter or Paul: If he is a good tenant, if he manages his farm well, and pays his rent pointedly, this is all that is necessary, and all that a landlord should in justice require: And it may be asserted, without much danger of contradiction, that proprietors do not consult their own interest most effectually by refusing it. For I believe it is generally observed, that farms are managed and brought to the best state of perfection where assignees and sub-tenants are allowed; especially if,

4. A sufficient duration of lease is granted, according to the nature and state of the farm. If a farm has been properly cultivated, brought to its highest perfection, and is in good condition when the tenant enters to it, it is ready meat for him; he has little more to do than set to work, and reap immediate profit. Whenever this happens to be the case, it is of less consequence what the duration of his lease may be, because he is sure of being as much, or nearly as much indemnified for his labour the first year of it as he can be in the last. But when a tenant enters upon a farm that is in a state of nature, or what is worse, in an exhausted and unproductive state; when great labour, great expence, and great risque of experiments must be incurred

incurred, it is evident that many years must elapse before he can reap any profit. He must toil thro' the course of ordinary tacks, and hardly be able, at the end, to ballance accounts; "He bears the burden and heat of the day, and sows," and it is a thousand to one but another reaps. There can be nothing more discouraging than this, and nothing more prejudicial to good and perfect cultivation. It must be a long time indeed before a county that is but half cultivated, or not cultivated at all, can be brought to its best state under the common term of a 19 years lease. Wherever, therefore, the titles of a gentleman's estate will permit, it is their own interest, either to give two or three 19 years, or a term of years certain, and one or more lives as they judge convenient: Then, if they choose their tenants with judgment, they will be sure of having their estates well improven; and those, on the other hand, will naturally feel that weight and consequence in society which they are entitled to, and be spurred on to the utmost vigour and exertion by the strongest of all motives, a sense of interest and security, and the certain prospect of providing for those who are dearest to them in the world. And least gentlemen should imagine that by this proposal I do not consult their interest; that I deprive them of reaping any benefit from the change of circumstances that may occur in the progress of Society; to obviate this, let them either take their rent in kind, according to a stipulated standard; or, which is still better, let the rent be progressive, according to the term of years for which the lease is granted; let the rent advance at the beginning of every 19 years, or the beginning of any other period that may be agreed upon. This is doing complete justice to all parties, and gives the best security, I can conceive, for the improvement of any country.

5. I would beg leave to mention another particular, which I think is not unequitable; that is, in every instance where circumstances will admit of it, all substantial improvements, such as farmstead, inclosures, subdivisions, drainage, should be done at the expence of the landlord; he should lay out the money, and either take an additional rent, or a certain per centage upon the sum expended. By this means these improvements have not only a chance of being better executed, but what is of high importance in the view of improvement, they do not cramp the tenant's future exertions. There are, no doubt, many wealthy and respectable farmers, who, at the outset of their leases, are able perfectly to do all these themselves, but it is certainly more for their advantage, and it is impossible that it can injure their landlords, that they should rather keep their money and lay it out on other improvements, than by baring

their hand at the beginning, retard their progress for many years to come.

Most, if not all of these observations, are applicable to every county that is in a progressive state of improvement, and in that view I mention them as what I think necessary for the farther improvement of the county of Ayr; and I protest solemnly, that I think them for the mutual advantage of both master and tenant: Their interests are certainly reciprocal, and ought never to be separated; a thriving tenant will make a thriving master, but if the tenant goes to wreck, both must suffer.

There are only two other public regulations that I would mention. The first respects milns. The servitude of thirlage is in some places abolished, in others it is modified, but in some others it remains in all its rigour, to the extent of the tenth boll to the miller, for grinding the other nine. This ought to be universally abolished, as an intolerable nuisance. Set tenants free from the thraldom of millers; let these pay a rent for the use of their milns; and then it will happen, according to the vulgar proverb, 'He that blows best, will bear 'the horn.'

It is a great loss to the county, that there is no weekly corn-market established in it; such as in Haddington, Dalkeith, and other places. It has at different times been proposed, but has hitherto failed. It would be a desirable object for promoting the improvement of the county, if it could be accomplished. The great utility and convenience of a regular established corn-market, in a corn country, is self-evident. It affords at all times a ready sale to the farmer, excites emulation in raising grain of the best quality, and tends to prevent undue combinations among corn-dealers, or others, to take advantage of the farmers ignorance or necessity. It is to be hoped that the gentlemen of the county, who are as eminent for public spirit as any in Scotland, will study to exert themselves, to accomplish this most necessary regulation.

At my outset in this paper, I intended to have gone into some further detail, particularly respecting the present modes of aration and cropping, and what alterations in these might be of advantage, for the further improvement of the county, were I not afraid I have already gone too far; but, if I find that what I have sent you, is acceptable, I may probably resume the subject on some future occasion. In the mean time, you will please accept my cordial thanks for the judgment and impartiality with which you conduct your useful publication.

AGRICOLA.

NOTE

NOTE BY THE CONDUCTOR.

So much good sense expressed in a distinct and accurate manner, appears in the above interesting communication, that we embrace the opportunity afforded us, from what is mentioned in the concluding paragraph, of earnestly soliciting a continuation of AGRICOLA's correspondence, especially upon the subjects which at this time have occupied his attention. Detailed accounts of the husbandry of other counties will likewise be highly acceptable, seeing that such cannot fail to prove useful and instructive. Every person possessed of the true *amor patriæ*, must contemplate with delight the gradual progress of improvement, and peruse with marked attention, the steps which have successfully been adopted in different districts, to introduce a system of agriculture, comparatively perfect, when viewed with that of former times.

On the Successful Application of Cast Iron Work, for hanging and fastening of Gates.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

SIR,

I AM enabled to assure you, that not a single instance of failure has come within my knowledge, in the cast iron work for gates, as below recommended, which has been purposely submitted to the most severe tests; and I have little doubt but that, in a reasonable time, the improvement will be generally adopted.

I beg leave to refer your readers to my paper on the subject of gates, in your Magazine for May 1803; and they will please to consider this communication as connected therewith.

Hatton Grange, 6*th Jan.* 1804. I am, Sir, yours, &c.
THO. N. PARKER.

Messrs Deerman, Francis, and Company, Eagle Foundery, Birmingham, have undertaken to supply the public with the castings, completely finished and fitted, at $3\frac{3}{4}$d. per lb.*. Two tons of which are ordered to be cast without delay, and several

* I have no interest whatever in the sale of these articles.

hundred weights of the castings have already been brought into use, under my immediate direction.

I shall confine myself in this paper to the form of a few memorandums, with a view to furnish a distinct method of giving orders for the cast iron work, to those gentlemen who may wish to try it.

For the gate F, (Plate 14, of your Magazine), to which a head-strap and strap-thimble are adapted, of cast-iron, omitting the intermediate length of the 9 feet iron strap,

Mr Parker's patterns, Nos. 1, 3, 4, 6, 7, 8, and 9*, 17½ lb. 5s. 7½d.

Pair of sheet-iron escutcheons, 2d.

No. 9 is the jointed latch, in three pieces; 12 two inch wood screws, 4 one and a half inch ditto, and 16 twopenny clout nails, will be wanting for the above.

For a common ready made gate, having a strong top-rail for the strap-thimble,

Nos. 1, 3, 4, 5, 6, and 7, 15 lb. 4s. 8¼ d.

Twelve two inch screws, and two one and a half inch ditto.

For a common gate, not having a strong top-rail for the strap-thimble:

Nos. 1, 2, 3, 4, 5, and 6, 13 lb. 4s. 0¾d.

Complete set of specimens, being 16 in number, which form sets for every purpose, including swing gates, 41 lb. 12s. 9¾d.

The shapes of the several pieces of cast-iron work will point out the manner in which they are respectively to be attached to gates, and for ordinary purposes, without referring to my pamphlet. The pamphlet, however, is gone to the press with six quarto plates, and will be immediately published, by Messrs Lackington, Allen, and Company, London; and any person ordering the complete set of specimens, may be very apt to misapply them, unless he pursues my directions, which are too long for introducing into your work, and they are not capable of much abridgement.

The cast-iron fastenings † are found to resist the strongest horse purposely

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* The castings are embossed with numbers from 1 to 16.

† The catch K, (Plate No. 14), has been rejected, in favour of a drop catch.

purpoſely rode againſt the gate; and the ſtouteſt man may throw the gate towards its falling poſt, with all his power, without injury to the caſt hangings.

The ſaving to the public, by adopting the caſt-iron, compared with the beſt wrought-iron work, as I before mentioned, is apparently more than 60, and really no leſs than 50 per cent.

The patterns have been executed with much exactneſs, in fine mahogany, to my utmoſt ſatisfaction *, and the caſtings are of courſe the ſame. It therefore remained only for their ſtrength to be proved; and this being done, my deſign is complete.

REVIEWERS REVIEWED.

Vindication of Findlater's Agricultural Survey of Peebles Shire.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

SIR,

INDUCED, from the *Proſpectus* circulated with your Magazine, to expect a work, not of a mere local, but generally intereſting nature, and ſtill more by the favourable ſpecimen of the author's talents for general reaſoning, exhibited in the extracts from the works *relative to Dearth, Monopoly, Foreſtalling*, &c. which you publiſhed in No. 5, &c., I became a ſubſcriber for the Peebles Survey, and, in mere juſtice to the author, muſt ſay, that, upon peruſal, my expectations, ſo far from being deceived, were even exceeded.

Although the work, from its ſtile, is ſeemingly of mere local intereſt to the inhabitants of that particular county, yet the author, from his habit and talent of generalization, has communicated much uſefulneſs and intereſt even to its moſt local ſpecialities, by aſſigning reaſons of extenſive application, both in accounting for the actually exiſting practices, as well as to enforce his own propoſed ameliorations.

The mere repreſentation of the exiſting ſtate of agriculture in Peebles-ſhire, conſtitutes, in my opinion, by far the moſt inconſiderable

* Should the caſt-iron work, in any caſe, happen to be furniſhed from the foundery, without being accurately fitted, it might be adjusted by filing, with the ſame facility as wrought-iron work may be altered; and when any gate does not fall with the force deſired, the means of encreaſing the fall, have already been fully deſcribed, in my former communication.

ſiderable part of the merit and uſefulneſs of the work. In the body of it, in foot notes, and in notes ſubjoined to the Report, and referred to in the text, every preſenting opportunity is laid hold of, for diſcuſſing ſubjects of the utmoſt importance to agricultural induſtry at large, independent of all peculiarities of ſituation.

The author obſerves, in his introduction, that 'as man is not 'ſubjected to the laws of mechaniſm, like inanimate matter, nor 'to unreaſoning compulſion, like the unreflective brute crea-'tion, his conduct cannot be regulated or incited upon the prin-'ciples applicable to either, and recourſe muſt be had to *moral* '*excitements*, in order to ſtimulate him to induſtrious exertion.' He then ſtates, that, in conſideration of the narrowneſs of the county and uncultivatable nature of the greater part thereof, together with the lateneſs of the prevalence of improved huſbandry, it was agreed betwixt Sir John Sinclair and himſelf, that it would be ſuperfluous to dwell on the minute ſpecifications of detail which might be expected in the reports of counties more adapted to cultivation, and where improved huſbandry had been of longer ſtanding; and that more ſpace might therefore be allotted to the conſideration of thoſe *moral excitements* to agricultural induſtry, which are of univerſal application. In purſuance of this profeſſed deſign, though I doubt not but that the exiſting ſtate of Peebles-ſhire agriculture is juſtly, and, I am ſure, not flatteringly repreſented, the report of the ſtate of agriculture forms, as it were, only the text, to introduce general diſcuſſions of the ſubject as the comment. Had Mr Findlater publiſhed theſe diſcuſſions by themſelves, as eſſays upon the proper ſtimulants to agricultural induſtry, he would have done himſelf more juſtice, and might have obtained more readers and purchaſers than for a work which unhappily, from its title, is apt to be conſidered as only locally intereſting. As it is, to judge from what I myſelf have experienced, I believe few readers will regret the coupling of his general diſcuſſions with a local report, in as much as the really exiſting ſtate of facts in Peebles-ſhire very often forms a moſt apt and happy illuſtration of the general principles he has endeavoured to eſtabliſh. In confirmation of the idea of this work, which I have been inculcating, I beg leave to ſtate ſome few of the general topics diſcuſſed in it.

Mr Findlater, moſt juſtly, in my apprehenſion, has conſidered the nature of the leaſe as the primary ſource, either of good or of bad huſbandry; and has therefore entered into a moſt copious and perſpicuous diſquiſition upon this intereſting ſubject. In diſcuſſing *the proper character of the farmer*, he has eſtabliſhed, I think, a well defined and permanent diſtinction, that muſt ever ſubſiſt betwixt the character of *thoſe who have their fortune*

to

to make, and who therefore conſider it as their main buſineſs to *acquire*; and of *thoſe who are born to the poſſeſſion of a fortune*, and trained up to the conſonant habits of *enjoyment*, rather than to thoſe of *acquiſition*. Having thus pointed out the claſs of farmers from whom the greateſt exertions of activity and enterpriſe, together with the moſt minute attention to economy in expence, are to be expected, he enters at large into the conſideration of the proper nature of the tenure of poſſeſſion, by which an intereſt in the ſoil ought to be communicated to ſuch cultivators. The leaſe is then amply conſidered under threefold points of view. 1ſt, *Of the proper extent of its duration*, to afford ſufficient moral excitement, or rational inducement to enter upon improvements of expenſive outlay, and diſtant return, which have hitherto been conſidered as confined ſolely to the province of perpetual proprietors, but which Mr Findlater thinks might be executed to much greater extent, at far leſs expence, and with more judicious attention to valuable uſe, tho' probably leſs to the purpoſes of ornament, by farmers of the firſt deſcription of character; a poſition illuſtrated by the effects of leaſes of 57 years, granted in the lordſhip of Neidpath. 2d, *The extent of property, in the right to the lease*, which he conſiders ought to be ever deviſeable, and completely alienable; a maxim, it ſeems, directly repugnant to the genius of Scotland, which abſurdly following the analogy of the poſſeſſion of lands granted, in feudal times, for the purpoſes of fighting, in the tenure of poſſeſſion granted for the purpoſes of agricultural induſtry, retains, to the landed proprietor, the right of *delectus perſonæ* in his tenant upon leaſe; refuſing to the tenant the right of its deviſement or alienation, and confining the right of holding it excluſively to his own perſon, unleſs in the caſe of its being extended to extraordinary length, or of ſpecial proviſions to the contrary, being made in the clauſes of the contract. This maxim, reſtricting the leaſe to an untransferable right veſted in the perſon of the original receiver, is ſhown to militate againſt the free outlay of capital, in fixing it, in improvements of the farm, to the extent of the proſpect of return afforded by the duration of the leaſe; and equally againſt the credit the tenant might otherwiſe have obtained for other capitals; cramping, in this way, both his outlay and his credit, in the ſame manner as is produced by entail, in regard to landed proprietors holding properties under its reſtriction. 3d, *The propriety of restricted or unrestricted management*; in which it ſeems evidently to be made appear that the direct effect of preſcribed management, is to prevent all further improvement; that, in conceding free power of management, the intereſts of both landlord and tenant are equally conſulted, as ſuch inevitably coincide for

the greater part of the leaſe, and cannot poſſibly diverge till perhaps within the laſt three years, when alone reſtrictions are neceſſary to ſecure the intereſt of the landlord.

Various other diſcuſſions, of ſubjects equally important, are to be found in this work. As, however, it is not my deſign to preſent a review, but only to direct the public attention to it, as not at all of mere local, but of moſt extenſive and general intereſt, I cannot pretend to enter into the extent of his general reaſonings. I ſhall, at preſent, only further remark, that the author ſeems moſt ſucceſsful in combating thoſe univerſal and deep rooted prejudices which have hitherto ſo often tended to embarraſs the free courſe of agricultural induſtry. He has, for inſtance, evinced, in a maſterly manner, the futility of all agrarian laws, cramping the exertions of induſtry, in pretending to regulate the extent of poſſeſſion of land, to be held either in property, or upon leaſe. In the courſe of this diſcuſſion, he details, at length, a moſt intelligible and conſiſtent theory of the principles, which (if the matter is left to regulate itſelf, as in other bargains, by an enlightened ſenſe of ſelf-intereſt in the contracting parties) muſt invariably tend to dilate farms to the ſize of their moſt productive and profitable occupancy; and muſt, as neceſſarily, hem them in within that profitable and productive ſize; ſo as to render the apprehenſion of the monopoly of farms a mere chimera of a diſturbed imagination. His expoſure of the impoſſibility of the exiſtence of the fancied crimes of *monopoly, forestalling, and regrating of corn*, in regard to which the deep rooted prejudices, both of the high vulgar, and the low, have ſo often expoſed agricultural property to deſtruction, and thrown a damp upon its induſtry, by rendering precarious the free property and unlimited right of diſpoſal of its fruits, muſt be familiar to all the readers of your Magazine, from the extract you publiſhed, and which I have already alluded to.

Mr Findlater's reasonings upon these and such other general topics, have appeared to me to be satisfactory and convincing. As they however constitute subjects of universal and most important interest, I could have wished to have seen them meet with the most full and ample discussion: For this purpose, I have, since the time of his publication, been anxiously waiting to see the subject taken up in a masterly manner, in some of our reviews, by some critic capable of entering into, and of appretiating the force of comprehensive general reasoning; who might be qualified, upon satisfying grounds, either to confirm or refute Mr Findlater's general conclusions.—I long waited in vain: Unhappily it would seem, the supposed local nature of the work had prevented general reasoners from searching in it for

for any thing of a general and comprehensive nature. It is indeed but of very late, that agriculture has been investigated in the same points of view as trade, manufacture, and other connected subjects of political economy; or that any attempt has been made to discover the proper moral excitements of its industry, as constituted in the fixed principles of human nature.

I at length thought I had obtained my object, in observing the Survey, as an article in the contents of the Monthly Review of September last. In turning to the article, I was, however, most miserably disappointed; for, excepting merely an observation of the propriety of adopting on our side the Tweed, the maxim (as Mr Findlater has stated it) of the Scots law regarding the division of commonties, viz. *that an obligation to enclose is not* ipse facto, *implied in the attainment of division*, not one of the comprehensive general topics is in the smallest degree adverted to, which, in my opinion, Mr Findlater has so ably and satisfactorily discussed; nor is the least hint even given of his having discussed them at all. Were the merit of the work to be judged of by the meagreness of the criticism, it must appear to be indeed but a very poor performance. The critic, as a specimen of the merit of the work, satisfies himself with a few extracts of the detail of facts as to the provision of the clergy, the unpropitiousness of the climate, the barrenness of the soil, and the economical state of house accommodation and maintenance of the Scots cottagers; and having indulged a little in a sort of Cockney triumph, in crowing over the poverty of Peebles-shire in her frost biting climate, want of orchards, and eating of *traik*, he concludes by observing, that 'the want of richness of soil, and benignity of 'climate must diminish the interest which the public would 'otherwise take in this survey,' &c.

Though the criticism is in general commendatory; though the author is allowed to have manifested knowledge and investigation, and given much important and curious information, it is, nevertheless, *thus* calculated (whether insidiously or inadvertently) to consign the work decently to oblivion, by attaching to it a littleness of interest, proportionate to the smallness of magnitude, and other natural disadvantages, which lessen the importance of the county described.

I might, by the way, observe, as to the county described in this survey, that the disadvantages of soil and climate, so far from diminishing, ought in reason to encrease our interest in the relation of its practices, in as much as the successful combating of disadvantages by superior industry and contrivance, shews that much more might be effected through their means, under

under circumstances more favourable: Nor are practices the less or more instructive, whether carried on upon a larger or lesser scale.

But, as I have already observed, the statement of the existing facts constitute a very small part indeed of the merit and usefulness of this survey. It is, in the luminous and comprehensive elucidation given of the general principles of moral excitement to agricultural industry, that its chief merit consists; and I should be extremely sorry to find, that the public attention was diverted from the examination and discussion of the interesting topics therein contained, from its importance being thus insidiously or inadvertently confounded with the littleness of the subject, to which, from its title, it might be supposed to be confined.

Perhaps the reviewer's silence may be accounted for, from his not finding himself at home in regard to subjects of general reasoning, or from being versant in them, solely in regard to other subjects of political economy, to which they are more in custom of being applied, such as, commerce, manufactures, commodities, and their circulating medium, &c. or, perhaps, under certain circumstances, the application of such general reasonings to agriculture, may become a subject of peculiar delicacy to an English critic.

He has observed, upon the statement of the severity of the Peebles-shire climate, *By this view of the climate, the English farmer will not be tempted to migrate to the North.* Though an Englishman myself, I must confess I am afraid, that even few of your Scots Peebles-shire lairds would call for an emigration of our English tenants to occupy their farms, as in too many instances their faculties of self-exertion would be found benumbed so as to unfit them for any successful struggle against disadvantages of soil and climate, from their being habituated to act as mere mechanical drudges, turning round without reflection, (like blind horses in a bark mill) in the same beaten circle of prescribed modes of management, invented in the days of ignorance, and perpetuated through absurd, and blind, but obstinate prejudice; prevented, too, even had they any liberty of action, from opportunity of acquiring a habit of liberal outlay, in prospect of distant return, from their accustomed, unpermanent, and precarious tenures of the soil. The liberal spirit displayed by Mr Findlater, in his various discussions of the lease and similar topics, render his work, in my opinion, peculiarly proper to be well known in England; and for this reason particularly, I have stepped forward to vindicate it from that oblivion to which it is possible to suppose, that an English critic, under

under conceivable circumſtances, might have induſtriouſly wiſhed to conſign it.

In Mr Findlater's diſcuſſions, a difficulty muſt have ſometimes occurred, of finding language, already from uſe ſteadily appropriated to the ſubject—a difficulty that occurs not in ſimilar diſcuſſions upon commerce, manufacture, and ſuch like topics of political economy, as have been more frequently made the ſubjects of general ſpeculation. If the reviewer was not in capacity to be properly aware of this difficulty, it is poſſible that *the application of words to a new ſenſe*, to which Mr Findlater might have been neceſſitated, may have been miſtaken ſometimes for thoſe *Scotticisms*, with which he alledges (tho' without ſpecification,) the work abounds, and for which candid allowance is made, in conſideration of the author's ſituation. I have indeed frequently felt a ruggedneſs in the ſtyle, though I believe not unfrequently produced by the neceſſary *unaccuſtomed juncture of words*, to which I have alluded: what I have perceived, in general, has been manly, vigorous Scots ſenſe; perſpicuouſly, and, if not always elegantly, yet often moſt forcibly expreſſed.

The reviewer ſeems to think that the circumſtances alluded to by the author, as unintereſting to the public, which prevented the Survey originally drawn up for the Board of Agriculture, from being publiſhed under its ſanction, ought to have been explained. I do think there was no ſuch neceſſity. The work is given to the public, and by its own merit, and not by the ſanction, or want of ſanction of authority, ought it to ſtand or fall. If there is found in it any thing improper, the Board is juſtified in refuſing its ſanction; if there is in it any thing dubious, or even any thing merely new, the refuſal of ſuch ſanction might alſo have been expedient. A Board of reſpectability is placed in a peculiar predicament; the influence of its authority alone, independent of any other reaſon, may give currency to falſe or dubious opinions, or to bad or equivocal practical operations. For theſe reaſons a Board ought ever to be extremely delicate in interpoſing the authority of its ſanction. On this account, without pretending to any information upon the ſubject, I can readily conceive that the Board, in regard to this Survey (which is by no means of a eunuch neutral deſcription), might, in their preliminary treaty with the author, be particularly cautious in requiring that it muſt be implicitly ſubmitted to the abſolute diſcretion of their confidential literary cenſor; and, from the author's bold manner of expreſſing himſelf, I can as readily ſuppoſe him poſſeſſed of that manly independence, or (if you will) of that haughty ſelf-ſufficiency, which would prevent him from ſubmitting to ſtand forward as the author

thor of a work which ſhould not be excluſively his own, or to become chucking capon to the chickens hatched by another bird *.

The critic notices that the engravings mentioned in the title, turn out to be but one, and that miſerably executed. He is in the right; there is but one, an octavo engraving of a water meadow, containing two or three diſtinct figures, marked plates 1ſt, 2d, 3d, and referred to as ſuch in the deſcription. Three plates would appear to have been intended, but economy had been conſulted, and the book is proportionally cheap.

If you conſider my purpoſe as laudable, in thus endeavouring to reſcue this work from that unmerited oblivion, into which it is ready to be plunged with ſuch as may be diſpoſed to take their character of it from the Monthly Review, you will publiſh this, and oblige your conſtant reader,

Nov. 1803. RUSTICUS ANGLICANUS.

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* I allude to a practice that may be of use where farming is alternately devoted to the raising of poultry, and their productions, for the consumpt of great towns; a mode of farming which, I am informed, is beginning to take place in the vicinity of your Scots metropolis.

A capon is pitched upon as the most economical broods-mother, being of large bulk of body, affording great extent of cover. His breast and belly are plucked almost bare of feathers; he is then shut up in a narrow dark place of confinement, and the chickens hatched by two or three clocking hens, are introduced to him. The heat emanating from his body, attracts the chickens towards him, for fostering warmth; and he too feels comfortable, from the application of their warm bodies to his naked and cold breast and belly. Reciprocal pleasure, thus mutually communicated, attaches them to each other, and he soon learns to perform all the offices of a mother.

BRANCH

BRANCH II.

AGRICULTURAL INTELLIGENCE.

At the conclusion of our last volume, rural operations of every kind appeared to be in a forward state. Wheat had been got sown under favourable circumstances, and to a greater extent than the variableness of our climate generally allows. Ploughing for spring crops was far advanced, a tract of uncommon fine weather having ensued after the conclusion of harvest, which permitted every branch of field work to be executed in a more superior stile than usually can be attained to in the latter part of autumn, or in the first of the winter months. The progress made of late has however been small. Storms of frost and snow prevailed in December. January has been wet, rarely giving two days of similar weather together. In fact, the bowels of the earth are now more completely saturated with moisture than at any time during the four past years.

Under these circumstances, the thrashing of grain has proceeded with vigour, and full supplies have been poured into every market. We are not here to enquire whether this vigour has been stimulated by official recommendations, or excited by the powerful influence of alarm, which, in certain cases, operates as strongly upon men in the field, as upon children in the nursery. Perhaps these causes together with the scantiness of straw have contributed to throw a greater supply into the market than the extent of the crop warranted, or the demand of the country required; which ultimately may produce consequences not beneficial to the public. In some districts we understand the stack-yards are already much diminished. In few of them was the bulk originally equal to that of former years. For wheat, a regular demand seems to prevail; but barley may be reckoned in some measure an unsaleable article every where, and has been sold for much less money than it can be cultivated at. Oats, notwithstanding their general failure last season, have also fallen in price, though still of greater value comparatively than barley. Pease and beans maintain a kind of equality, having fluctuated less than any other grain.

Very little alteration has as yet appeared in the cattle and sheep markets, but the quality of the dead articles presented, is, in many instances (mutton especially) of an inferior description. The failure of turnips formerly mentioned, limited

sheep-

sheep-feeding very much; and the weakness of the food, and wetness of the weather, have prevented those put upon this root, from making the usual improvement. An after scarcity seems inevitable, though it is not an easy matter to say when it may take place. An early spring would afford the surest relief; but so many of the young grasses have either failed, or appear to be in so weak a state, that much reliance cannot be placed upon this resource.

Potatoes threaten to be a scarce article soon, being already not much cheaper per peck than oat-meal; whereas, in ordinary seasons, they rarely exceed one half of its price. Hay, in several districts, is also in much demand, though in others it is comparatively plentiful. The bulkiness of the article, and the expence of transporting it to a distance, renders an abundance at one place often of little advantage to others.

Mr ADDINGTON, we learn, intends, shortly after the recess, to move in the Lower House of Parliament, for a Committee to investigate the relative abilities of English and Scottish barleys, to pay a tax upon malt; but we have not heard of any preparations being made by the landholders (who certainly are the persons chiefly interested), to bring forward, to the notice of that Committee, any evidence in support of the just claims of Scotland, to be taxed in an inferior ratio to what is levied in the fertile English counties. We formerly stated that the last crop afforded only partial evidence; and recommended, that recourse should be had to the qualities of preceding years, if the subject was to be investigated upon just and impartial principles. The grain of both countries had greater affinity last year than what may again take place for half a century; because the singular dryness and temperature of the weather placed the whole island more upon a level than customary, so far as climate was concerned. Still there is a difference to be found; or how could importers bring down English barley, and find it a saving article, after defraying all charges, unless a greater quantity of saccharine matter could be extracted from the one than the other. An interesting paper on this subject by Dr Keith, will be found in the Miscellaneous department of this Number, p. 49, et seq.

The proprietors and farmers of Norfolk, Suffolk, and Essex, mean also to bring the additional tax of last Session before Parliament, upon another principle; and we think their arguments are so just, that they can hardly fail to meet with suitable notice. They complain of the tax as excessive; depressing agriculture, and discouraging the cultivation

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of barley, the ſtaple article of theſe counties. In theſe averments much truth, we apprehend, will be found, nor does it ſeem poſſible to counteract them, but by ſhewing that the increaſed tax has not decreaſed the quantity of barley malted. It is not ſufficient to ſhew that the amount of the new tax has equalled the eſtimate, becauſe the ſtock in hand at the time being taken, neceſſarily augmented the firſt year's produce; but it ought to be ſhewn, that the malt trade afterwards experienced no declenſion, or in other words, that the old malt tax is not leſſened. If we were merely to reason upon the matter, it would not require many arguments to prove that the doubling of a duty on any article thereof, muſt decreaſe the conſumption; nor is much conſideration neceſſary, to find out the impropriety of a tax which greatly exceeds the value of the raw article itſelf. In fact, the ſtate of markets proves that the ſale of barley is thereby much impeded; for, notwithſtanding that a leſs quantity was ſown laſt year from a dread of the effects of this heavy impoſition, yet this grain is the cheapeſt of all grains that are raiſed by the farmers of Great Britain.

The value of labour having of late prodigiouſly increaſed, we have been deſired by ſeveral correſpondents to turn our attention to that important ſubject. It requires ſmall reflection to diſcern that the enormous riſe of laſt ſummer upon the wages of maſons, carpenters, and labourers, was chiefly occaſioned by the profuſe ſyſtem acted upon in the erection of barracks, for the accommodation of ſoldiers, in ſeveral diſtricts. That theſe barracks were neceſſary we do not diſpute; but that they were delayed to a late period of the ſeaſon, and then executed at a prodigious increaſe of expence, will not be queſtioned by any one, unleſs he is diſpoſed to ſupport every public meaſure whatever ſhall be its merits. It may alſo be noticed, that the laudable intention of the legiſlature, to introduce improvements into the Highlands, by building bridges, making roads, &c. may likewiſe occaſion a continuation of the evil, if thoſe entruſted with the direction are not guided by prudence and foreſight. On this point, a judicious hint is given by Sir George S. Mackenzie, p. 45, which we truſt will not be neglected. Indeed, it would be matter of regret was a meaſure, originally calculated for the benefit of the Highlands, to turn out eventually prejudicial to the intereſts of the country at large. We are clear, that the artiſan and labourer ought to be well paid, but there is a medium in all things, and extravagant profuſion on the one hand, deſerves equal cenſure as illiberal parſimony does on the other.

The diſtreſſes of the Zetlanders, have lately engroſſed much notice, and it gives us pleaſure to remark, that their ſituation early experienced the attention of that able public officer, the Lord Advocate of Scotland. With an unſucceſsful fiſhery, and

a ſhort crop, the inhabitants of the Zetland iſles, are intitled to the commiſeration of their Scottiſh brethren; and we truſt, that the Imperial legiſlature will not be unattentive to their wants. But when on this ſubject, we cannot avoid remarking, that the rural and political economy of theſe iſles, are inimical to all improvement either of the ſoil or condition of the inhabitants; and that unleſs a material change is introduced, a laſting benefit cannot be conferred upon them. This will ſufficiently appear by the following extract from the ſtatiſtical account of the pariſh of *Walls and Sandness*, the *ultima Thule* of the ancients, written no farther back than 1797, by a gentleman who ſeems to be well qualified for deſcribing the internal circumſtances of this diſtant and neglected part of the Britiſh empire.

'Where manufactures and uſeful employments are eſtabliſhed, 'the populouſneſs of a country forms its riches and ſtrength; but 'where theſe are wanting, too much population becomes its bur-'den. It is like a ſhip's company reduced to ſhort allowances. 'Such is the caſe with this country.

'Beſides, the farms are by far too ſmall, many of them, with-'in theſe forty years being ſplit into triple the number. This has 'proceeded from the impolitic rage for proſecuting the fiſhing; 'but it is accompanied with hurtful conſequences to the tenants, 'as the ſmallneſs of their farms keeps them in indigence. It 'tends only to enrich the landmaſter for the preſent, as he takes 'the products at a much lower price than would be given by a 'neutral merchant; he having the ſame labour from one that has 'only a few merks of land, that he had from the tenant when 'poſſeſſing, formerly, a much greater quantity. Having little 'land, the tenant can rear few cattle to bring him caſh to pay his 'rent, and procure ſuch things as he may need: Whereas, in 'former times, by poſſeſſing more, and being allowed to remain 'thereon throughout the year, without being forced to fiſh for the 'landlord, he was better able to pay his rent, and could live in a 'more comfortable and ſubſtantial manner. From the want of 'leaſes, and the tenant's being frequently obliged to have recourſe 'to his landmaſter for ſupplies in his exigencies, it renders him 'ſervile and obſequious. That manly independent ſpirit, which 'characterizes a free-born Britain, and prevails among the pea-'ſantry in the ſouth countries, is here loſt.—As the tenant has 'only a verbal tack, he promiſing to fiſh for the landmaſter, and 'to give him all his products, and to remain upon the land during 'pleaſure, this proves a bar to all improvements, as he knows 'not if he will reap the benefit thereof longer than one year.'

The confuſion and inaccuracy of the income or property act, is now fully exemplified by the difficulties attendant upon its execution. In fact, notwithſtanding the ſeveral expoſitions which

which have been printed and circulated, many of the clauſes are not read in one way by any two perſons. Except in ſo far as landed proprietors are concerned, the act is not ſpecific and diſtinct; but this claſs of the community are completely laid hold of, and few, if any of them, can eſcape the *maximum* of the tax. The tenantry, in the next place, are more ſeverely ſubjected than others; though we hope it is ſufficiently underſtood that unleſs their rents exceed 120l. they are not liable to the tax at all, nor to the *maximum* of 6d. *per* pound, except the rent is 300l. or upwards. This explanation is given upon the ſuppoſition that ſuch are not poſſeſſed of other funds; for theſe, of courſe, will be added to the rent, and the tax regulated accordingly. The monied and trading intereſts will, as uſual, feel eaſier under the operations of this act. In their caſe, it is a mere income tax; for without poſſeſſing the means, they cannot be ſubjected to payment; whereas the occupier of land is liable, whether he enjoy a halfpenny of income or not. Without inſiſting, however, upon theſe things, or illuſtrating the conſequences of this extenſive and in ſome reſpects incomprehenſible act, it may be ſufficient to ſtate, that the difficulties experienced in its execution demonſtrate the propriety of a reviſal, better than an hundred thouſand arguments. When this comes to be done, we truſt that various alterations upon its principle will be made, and that the landed intereſt will not be inattentive to a meaſure with which the proſperity of agriculture is ſo deeply connected.—*Jan.* 27.

Extracts from private Correspondence.

SCOTLAND.

[The following was too late in coming to hand for the Supplement to laſt Volume, therefore is inſerted here.]

Selkirkſhire.

It will be neceſſary to mention the actual ſtate of things a few years ago, in order to give you a juſt idea of our recent improvements. Not many years ago, there were not above half a dozen farmers in all the county who did not adhere ſtrictly to the outfield and infield ſyſtem. That which we called our croft-land was always deſtined to carry white crops (that occupied with potatoes excepted), and every third or fourth year received in rotation the dung of the farm as a preparation for bear (big) and potatoes. Nature, being thus deprived of her beloved variety, gave often, in return, plenty of weeds, but generally a naughty crop of corn. Turnips were reckoned too delicate a plant to thrive

in ſuch a bleak, mountainous diſtrict; and as every body ſaw they had too much graſs amongſt their corn already, they thought that ſowing it, inſtead of remedying, would but increaſe the evil; hence, the croft-land was ſubjected to a never-ending ſyſtem of white-cropping.

The management of the outfield (which was land prepared for cropping by folding ſheep and cattle upon it), was no better conducted. Not content with two, or perhaps three middling crops, we uniformly perſiſted, in ſpite of every obſtacle, to take four or five crops, and then left it to run to weeds, graſs, or whatever an impoveriſhed ſoil could produce.

But, thanks to a few liberal-minded individuals, theſe cuſtoms, though ancient, are now happily exploded. Turnips are every where cultivated, and generally conſumed in rearing ſtock, as noticed in our report for Auguſt; after which, the land is laid out in graſs for hay or paſture. It is alſo drained where wet, and encloſed. Indeed, this part of the farming economy ſeems to be pretty well underſtood; for there are few farms in the county where the arable land is not encloſed, or encloſing; and, in many inſtances, it is both encloſed and ſubdivided. In ſeveral places, fallowing ſeems to be but imperfectly underſtood; though I am glad to ſee that, within theſe two or three years, more attention is paid to it than formerly.

Good roads were, and ſtill are, very much wanted; but, in the courſe of laſt ſeaſon, much has been done this way. Two bridges have been built over the Ettrick, and one is intended over Yarrow. A new road is alſo cut, and cutting, where the old one was ſteep, or otherwiſe inſufficient, from Selkirk to Moffat; another, though of only local advantage, is forming up the Ettrick; and a croſs-road is alſo ſtaked out, to run through the middle of the higher part of the county, betwixt Tweeddale and Tiviotdale. Theſe, when completed, bid fair to be of great utility to a conſiderable part of our farmers, for conveying more ſafely, or, at leaſt, in a leſs circuitous manner, farm produce to market, and farm conſumption home, ſuch as lime, marl, coal, &c.

Liming and marling are every ſeaſon coming more into uſe; and moſt of the farmers, even in the higheſt parts of the county, have done a little this way, although both are procured at great expence, on account of the diſtance, and badneſs of the roads.

All the ploughing is performed by the Engliſh plough and two horſes. Oxen are everywhere fallen into diſuſe; and are nowhere employed, ſo far as I know, for performing farm labour.

Irrigation was lately introduced, as mentioned in our laſt; and it is certainly a pity the practice is not more generally diffuſed, as it would render a conſiderable part of the county leſs dependent, for winter fodder, on bog hay, which, at beſt, is but coarſe, and its growth precarious. Rather leſs land is cultivated than formerly, as the farmer is convinced there is more to be got from three acres in good heart, than from four in an impoveriſhed ſtate.

As capital has been rapidly increaſing within theſe few years, ſo the farmer

farmer can ſpare more for his own convenient accommodation, for purchaſing the comforts, and even the luxuries of life; and thereby promote the encouragement of trade, and give employment to uſeful artiſans. Elegant houſes are built and building in many parts of the county; portions of ground are planted both for uſe and ornament; gardens are cultivated in a ſuperior manner; and, in ſhort, the whole farming economy is carried on in a more enlightened and perfect way, even in a way which clearly manifeſts the growing proſperity of a free, enlightened, and happy people.

Much attention has of late been paid to the introduction of the Cheviot breed of ſheep. But we are not certain that, in every reſpect, this is an improvement. The returns that have been hitherto made, leaves it rather uncertain which are the moſt profitable. Some of our beſt Highland ſtoremaſters retain the foreſt breed, and ſome, after trying the Cheviot, relinquiſhed them as unfit for our mountainous diſtrict.

Letter from an Extenſive Farmer in Annandale, January 10.

'Our cattle markets were lower at the end of the year than in ſummer and autumn. I was lately up in Norfolk with the ſtock of cattle which I had kept laſt year, chiefly Highland bullocks, but was not paid well, ſales being dull, and prices much reduced. I was ſurpriſed to find barley at ſuch a low price in Norfolk. When I went there in November, it was ſelling at 12s. 6d. per coomb of four Wincheſter buſhels; but when I left the county in December, the price did not exceed 10s. 6d. I do ſomething conſiderable here in the corn trade, by ſhipping barley and oats for Liverpool and other ports; and, lately, a large order for the former grain was received from Dublin at 9s. the Carliſle buſhel, which is equal to three of Wincheſter, but the order was ſoon countermanded. However, I have bought about 2000 buſhels at 8s. 6d.; though, if matters do not brighten up, the concern will not be a good one. At preſent, I am ſhipping common oats at 8s. and potato ones at 9s. per Carliſle buſhel; but, from what I can learn, even theſe prices do not promiſe to be ſteady. Our barley is good, and in excellent condition, this ſeaſon. We have few peas and beans; and wheat has a dull ſale at 20s. per Carliſle buſhel, of our beſt quality.

'I have been aiming theſe two years paſt to introduce the Leiceſter breed of ſheep here, and have this year put 140 ewes of that kind to the tup, which I hope will prove a beneficial meaſure. I hired tups for two ſeaſons from Mr Culley, and this year have one of the ſame kind from another breeder. I have great expectations that ſtock of this kind will pay handſomely, as I ſold my wedder hogs in Auguſt and September laſt at 55s. per head—ſome of them weighed 26 lib. per quarter. My ewes at preſent are thick fat; indeed they will not be poor if any degree of juſtice is given them; and their condition is rather unfavourable to their lambing ſafely.

'Beef and mutton ſell about 6d. per lib. avoirdupois; but pork is a low article, not worth more than 4s. 6d. or 5s. per ſtone of 14 lib. A

great number of ſwine are fattened in this diſtrict; and many of our ſmall farmers were in uſe of paying their rents with the produce of this ſtock. Hay is 6d. and 7d. per ſtone of 24 lib. which is not a price much more than its worth for litter. Maſons and carpenters are 2s. per day with victuals, and labourers 1s. 2d. with victuals, or 1s. 8d. and 2s. without them. If produce continues at ſuch reduced, and labour at ſuch increaſed rates, the ſituation of farmers in every diſtrict will ſoon be truly diſtreſſing.'

Tweeddale Quarterly Report.

THE weather continuing remarkably good from the beginning of Autumn to the firſt of December, harveſt work was not only finiſhed in the moſt ſatisfactory manner, but winter ploughing conſiderably advanced before any interruption was experienced. Much labour was of courſe performed without conſuming fodder; as the foggage, though far from being luxuriant, furniſhed a longer ſupply of food than cuſtomary to the horſes and wintering cattle, which, as our crop was of little bulk, proved a favourable circumſtance. Even at this time paſtures have a freſh appearance, as the froſts have always been accompanied with a ſlight covering of ſnow; and this has alſo permitted a full uſe of the turnip crop, both for ſtall and field conſumption. Perhaps this crop has exceeded the expectation of our farmers more than ever remembered, as the progreſs in bulbing, during the months of October and November, ſurpaſſed very much that of former years. This ſeems to prove that turnips receive much nouriſhment from the atmoſphere; for, in the above months, ſo little rain fell as ſcarcely to moiſten the ſurface of the drills; ſo that when the turnip was pulled, in the firſt of November, for houſe-feeding, the root came out as dry as if it had ſtood among aſhes. The crop, however, was then making rapid progreſs; the weather was mild, and the night dews copious; to which cauſes their uncommon progreſs may be attributed.

Our grain crops, though ſcanty in ſtraw, are turning out tolerably well, both in barn and mill, and, I believe, will produce as many bolls as gained laſt ſeaſon. Oats in general yield meal for corn. Barley and bear are good in quality, but not in demand, which muſt greatly diſcourage agricultural improvement. In this county, almoſt the whole of the arable land, being adapted to turnips, that root is univerſally raiſed, and conſumed by ſheep; by which means the ſoil is greatly enriched. We look forward to the ſucceeding crops (barley and oats) for indemnification of our expence; but as neither the ſoil nor climate admit of wheat, and we have no permanent market for hay, without driving it to a diſtance, which the bulky nature of the article will not allow; therefore, if our demand for barley fails, oats muſt in future be the only grain cultivated. We raiſe conſiderable quantities of peas, in the lower diſtricts of the county; but our views in cultivating this grain are confined more to ameliorating than lucrative crops.

A regular rotation of cropping has been ſucceſsfully adopted upon many farms for ſome years paſt; and more than double rent is now given

given for land. Moſt of our leaſes bind the tenant to practiſe rotation huſbandry; but if an alteration does not ſoon take place in the Exciſe laws, our preſent ſyſtem will be knocked in the head; for few people will cultivate an article they cannot ſell. Upon ſuch diſtricts as Tweeddale, the increaſed malt-tax operates with much more ſeverity than upon thoſe ſituated in a more favourable climate. Here barley is the ſtaple grain commodity, conſequently any obſtruction to the ſale thereof muſt be attended with fatal conſequences. In other diſtricts, where wheat forms the principal crop, the tax can only expoſe cultivators to a partial evil, as they have it in their power to renounce the culture of a grain which, at preſent, makes a worſe return than any variety of the culmiferous tribe cultivated in Great Britain.——*Jan.* 11.

Letter from a Farmer in Dumbartonſhire, January 13.

'We had ſome warm weather through the ſummer months, which cauſed our corn crops to turn out well. Several fields, originally injured by the grub-worm, revived much afterwards; and the whole of our grain being completely ripened, and ſafely harveſted, renders the quality ſuperior to that of our average produce.

'Markets, at the preſent time, ſeem rather overſtocked, and prices are lower than was generally expected. Perhaps theſe things may be occaſioned by the deficiency of ſtraw, as a greater quantity of grain muſt be thraſhed than uſual before the neceſſary ſupply of provender can be procured to the beſtial; but this ſuperabundance cannot laſt long, for ſeveral ſtack-yards are already more than half emptied. A large proportion of the land with us is prepared for the ſeed, the goodneſs of the weather having permitted ploughing to go briſkly forward. Hay, which in Auguſt was 5d. per ſtone, now ſells at 9d.'

Banffſhire Quarterly Report.

From the date of laſt report, till about the end of November, we were favoured with weather in every reſpect propitious to the operations of the farmer. The paſture fields, continuing in a ſtate of verdure, admitted the cattle to be kept out at leaſt a month beyond the ordinary time of houſing—a circumſtance highly advantageous in this ſcarce year of provender. But, notwithſtanding of all this ſaving being made, ſtraw is ſtill like to be in great requeſt. Oats and fodder have been ſold as high as 35s. and 40s. per boll: this, when thraſhed, perhaps would bring no more than 16s.; and if made into meal, little or nothing more. Hay, however, has not riſen much, and can be got at 1s. per ſtone: this diſproportion very often happens in times of ſcarcity; but, it is evident, muſt be a great error. The young graſſes that remained in a dormant ſtate during the ſummer months have come forward ſufficiently to endure the winter froſts. A greater extent of wheat was ſown than ordinary, on account of turnip failure, and makes a very good appearance. Although our grain markets have ſuſtained great depreſſion, the price of labour is rather on the riſe: our ſervants

vants are moſtly kept in the houſe in this country; and a ploughman gets from 7l. to 7 guineas in the half year. Tradeſmens' wages are likewiſe very high: a maſon gets from 2s. 6d. to 3s. a day; and wrights 20d. to 2s., with victuals. Theſe, and various other expences which the farmer is loaded with, muſt be ſeverely felt by many in this diſtrict; particularly thoſe of ſmall capital, and who have recently got their leaſes renewed with the landlord. However, the ſtricteſt unanimity prevails at preſent; and we ſincerely hope, when theſe eventful times come to a criſis, that the Legiſlature will have the farming intereſt more in view; which is not the leaſt material part of the national concern. Fat cattle have not yet exceeded 8s. per ſtone, ſinking offal; but a conſiderable riſe is ſoon expected, as the markets cannot have ſo full a ſupply when the ſpring commences.——*Jan.* 15.

Letter from Falkirk, Jan. 16.

'With the political horizon extremely clouded on every ſide, and each ſucceeding day anxiouſly looked forward to, and expected to produce ſome great event, it afforded ſome conſolation to reflect that the abundance of laſt harveſt would enſure plenty at home, whatever might be the ſtate of the crops abroad, and that we ſhould not be dependent on foreign ſupplies for our daily food; a neceſſity, at all times to be deprecated, but, in the preſent ſtate of things, a moſt direful calamity. In that general ſentiment, and knowing that even a full average crop was ſcarcely equal to the conſumption of the country, the farmer might have cordially joined, under the expectation that his crops, although they could not be expected to reach a very high price, would yet afford him a decent return, at leaſt ſufficient to meet the increaſed and increaſing demands on his produce. But this has by no means been the caſe; and the preſent low, and ſtill declining rate of markets, and increaſing rate of every thing elſe, muſt inevitably involve many in inextricable difficulties. Whether the threatened invaſion, ſo long held *in terrorem* over our heads, has been a principal cauſe, by the effect it certainly has had in preſſing prematurely into the market an over proportion of that ſtock which is to carry us through the year; or to what other cauſe it may be aſcribed, I pretend not to determine. However this may be, certain it is that the preſent low prices would induce us to think very differently of the laſt crop, from what we would have concluded from the combined communications from almoſt every quarter of the kingdom. If too conſiderable a quantity has been prematurely thrown on the market, it may perhaps (to uſe the words of the ingenious Findlater) turn out to be 'firſt a burſt and then a faſt.' The preſent prices in our maket may be ſtated—Wheat, 22s. to 25s.; barley, (if any price can be quoted, for from the language of the buyers, we would think they would ſcarcely accept of it as a preſent), 14s. to 16s.; oats, 15s. to 17s.; beans, 16s. to 19s.

'The young wheats are looking extremely well; and graſſes, although by no means promiſing, are better than they appeared at harveſt time.

The

The uncommon fine weather fince harveſt has permitted ploughing to be far advanced, even in our clayey diſtrict, (an uncommon occurrence); it ſcarcely met with any interruption till the froſt ſet in. The preſent circumſtances of the country have put an entire ſtop to almoſt every improvement beyond the ordinary routine of farm operations; nevertheleſs, the wages of labourers are very high,—maſons and carpenters from 15s. to 18s., and labourers from 9s. to 12s. per week; but, at ſuch rates, it will always be found moſt adviſeable to have all work that can poſſibly be executed by the piece, done in that way; for it almoſt ſeems a ſort of eſtabliſhed principle, that the higher the daily wages are, the leſs work is done. The property tax has not excited ſo ſtrong a ſenſation here amongſt the farmers, as in many other places; becauſe, being generally on a ſmall ſcale in this diſtrict, few of them are reached by it at all; and they are not aware that the principle of it may, at one time or other, apply to them with a vengeance. Why any hypothetical *data* ſhould be aſſumed on which to aſſeſs the profits of the farmer, more than thoſe of the manufacturer or trader, is a queſtion to which no good anſwer can be given. It will ſurely not be ſaid that the farmer is a leſs virtuous ſubject than the other, conſequently leſs likely to make a fair return of his real annual profits. I can diſcover no other reaſon than this, that the farmer, like the quiet beaſt he employs, tacitly ſubmits to the burden without a murmur; whereas, the others, at ſimilar treatment, would have briſtled up like hedgehogs, ſent the hue and cry from one end of the kingdom to the other, and endeavoured to perſuade the nation that their intereſt, no doubt more connected with the ſhuttle and the hammer than with the plough, would be ruined by the meaſure. As many farmers and other plain men are a good deal puzzled with the intricacies of the property act, perhaps the following particulars may aſſiſt ſome who have not yet returned their ſchedules, or enable them to amend them if returned on erroneous *data*. The way in which they are aſſeſſed to the landlord's part is very plain; but the tenant's is not equally obvious. From the act, I conceive that they are to deduct from the annual value of their poſſeſſions, if not ſubject to tithes, *one eighth*; and if ſubject to teind, then ſuch a ſum as, together with it, will amount to one eighth. After this deduction is made from the annual value, then one half of the remaining amount is the ſum on which the tenant's tax is to be aſſeſſed in Scotland. From this it follows, that unleſs the annual value of his poſſeſſion exceeds 137l., he is not liable to the tax at all, inaſmuch as his income, eſtimated according to the act, would not amount to 60l.; and alſo, on the ſame principle, the annual amount of his poſſeſſion muſt exceed 340l. before he is liable to the *maximum* tax. In England, the deductions are the ſame; but the tenant's income is taken at three fourths of the annual value of his poſſeſſion. I have no authority to vouch for the above interpretation of the act, which is not a little obſcure; but, on a careful peruſal of it, as well as the expoſition thereof, it appears to me the ſtrict letter, if not the legitimate intention of it, as to the manner of aſſeſſing the

tenant's duty. It is done with the view of equalizing to the tax, thoſe who are tithe-free, and thoſe who are liable to that burden. It will ſo far have this effect, where the tithe is not equal to one eighth of the annual value of the poſſeſſion, as may be generally the caſe with us in Scotland; but it is for our ſouthern neighbours, who pay tithe in kind, to point out how nearly an eighth of the annual value of their poſſeſſions, and the tithe in kind will generally approximate.'

Roſsſhire Quarterly Report.

For theſe three months paſt, we have had, upon the whole, very favourable weather for carrying on the agricultural concerns of this diſtrict. The crops were all ſecured in good order; but, owing to the drought of ſummer, bulked very poorly in the ſtack yards. The wheat ſeed was finiſhed in fine condition, and a greater breadth than uſual got ſown. Wheat was our only average crop, being tolerably bulky and of fine quality. Barley is defective in bulk and quantity, but yields more than a common proportion of ſpirits. Oats, our principal dependence, were of very little bulk, and poor in quality. Turnips, even where a braird was procured at the proper ſeaſon, are but a middling crop; but in many places they entirely failed. Potatoes can hardly be ſtated as up to an average, and the quality is generally very indifferent.

Our markets are dull, though nominally high. Barley, from 22s. to 30s. per boll; oatmeal, from 24s. to 26s. per nine ſtones; oats, with ſtraw, have been ſold at 30s. per boll of five firlots, which would not produce above ſeven ſtones of meal. This may ſhow the value of fodder with us this ſeaſon. Indeed, three times the uſual price has been given for wintering cattle on ſtraw. Hay was a light crop; but a conſiderable quantity of old ſtock being on hand, it has not fetched above 1s. 6d. per ſtone. Our cattle markets have declined ever ſince the month of Auguſt; and, by Martinmas, a lean beaſt could not be ſold upon any terms. The prices in the ſouth, from what we could learn, did not warrant ſuch a depreſſion as took place here; but various circumſtances concurred to produce a ſtagnation; one of which, and not the leaſt, was the want of credit at the Banks. From ſome cauſe, beſt known to the Bank directors, they had ordered their agents in this quarter to narrow the diſcounts; ſo that money could not be raiſed, in the uſual way, for purchaſing the cattle; and theſe orders were ſo ſudden, that the drovers had not time to be otherwiſe prepared. When the commerce of a country depends almoſt entirely upon paper as a circulating medium, great caution is neceſſary in thoſe who have the management of that currency. In banking, as in other trading concerns, the directors have no doubt a right to make the moſt of the capital entruſted to them; but they ought alſo to have ſome regard for the country at large with whom they deal. It is well known, that when the 3 *per cent.* conſols are at 60 or upwards, the Scotiſh Banks are moſt anxious in preſſing their paper into circulation, by freely diſcounting bills and granting caſh-accounts; thus raiſing and encouraging a ſpirit of ſpeculation in commerce,

commerce, manufactures, and agriculture, which otherwiſe would not have exiſted. When theſe ſpeculations are ſet afloat, it is ſurely a cruel meaſure ſuddenly to withdraw the aid granted to thoſe concerned in them, and without which they cannot be carried into effect; thereby completely blaſting undertakings, which, with a more ſteady capital, might have been carried on with profit to the owner, and benefit to the community.

Several proprietors in this county have availed themſelves of the act paſſed for commuting the ſervitude of thirlage; but, however beneficial its effects may ultimately prove to the country, the deciſions given have certainly bore hard, in the firſt inſtance, on the parties formerly thirled. It appears, on the examination of witneſſes, that the duties paid were under different denominations; a certain part being allotted for the proprietors as multures and right of thirlage; another part alſo paid the proprietor to uphold the mill; and another duty paid to the millers as their wages. The proprietors, in moſt caſes that have been tried, had alſo claims for certain ſervices; ſuch as, keeping the mill-lead in repair, bringing home millſtones, &c. Theſe things being clearly ſtated to the Judge and Juries, it became then their duty to conſider what proportion of theſe duties, ſervices, and preſtations, the proprietor was entitled to; and the deciſions in general were, that the proprietors were found entitled to full value for all duties paid, except that part which was always appropriated as millers wages; and, in ſeveral caſes, a ſum of money was allowed in lieu of ſervices. The Juries were, however, by no means unanimous in the deciſions given; it being warmly contended, and with good reaſon, that proprietors were not entitled, by the ſpirit of the act, to *pocket* more than they had formerly done; as, in this view of the caſe, the parties thirled, ſo far from being relieved from bondage, had an additional burthen laid upon them, they being compelled to pay for *upholding* a mill, which the proprietor might keep up or not, as he thought proper, and from which, at all events, they could not derive any benefit.——*Jan.* 18.

Dumfrieſſhire Quarterly Report.

The weather, for the laſt three months, has been variable and in extremes to an uncommon degree. There has, notwithſtanding, been a good deal of agricultural labour performed. Wheat was ſown in the end of October, on potato land, in good order; and, though it has been kept long under ground, it is now up in full ſtrength. The ſtubbles for fallows and green crops have been ploughed. During the froſt, the ſtraw yards were cleared, and the dung put up on the head-rigs of land for turnip and potatoes; an eſſential matter now coming to be ſeen into by all farmers, not only for the facility of labour in April and May, but alſo for bringing the manure into a proper ſtate for uſe.

The general fall of ſnow in November and December, was like to be ſevere for ſtocks of ſheep in the higher parts of the county, not from

from the depth of it, but from being plated with ice. When the ſtocks were brought to the extremity of *flying* to the lower parts of the country, they were relieved by the ſoutherly breeze of one day. Variable weather, and frequent falls of rain, are conſidered fully worſe for ſheep, in all ſituations, than ordinary ſtorms, and more dangerous for their conſtitutions, and have always bad effects if the ſpring ſhould happen to turn out ſevere. This, we ſee from experience, is the circumſtance on which moſt depends the ſtock or quantity of animal food which can be brought to market; and from this it ariſes, that the greateſt improvement to be made in Britiſh agriculture and farming, is the increaſe of ſpring food for ſheep and cattle, not only for the preſent ſupply of markets, but for rendering all ſtocks more generally independent of the effects of bad ſpring weather, and fitting them for getting more immediate advantage from the ſummer paſtures. This is happily coming to be now attended to by improving farmers. But none, except thoſe who have had ſome experience, can have an idea of the difference of the growth and feeding upon ſummer paſtures, whether coarſe or fine, of either aged or young ſheep, or cattle fed even in a ſmall degree in the ſpring with turnip, from thoſe which have been kept upon fodder or winter paſtures only.

The crop of laſt year turns out productive, rather beyond an average, as is generally the caſe after a dry and warm ſummer; and all is of good quality. Wheat, from 60 to 63 lib.; barley, from 50 to 54 lib.; and oats, Common and Frieſland kinds, from 38 to 40 lib.; potato oats, from 42 to 45 lib. the buſhel. Prices—Wheat, from 6s. 6d. to 7s. 6d.; barley, from 2s. 8d. to 3s.; oats, from 2s. to 2s. 6d.; potato oats, 3s. the buſhel. The ſuperior quality of the potato oats is allowed by all; but the greateſt advantage is reaped by thoſe who have them on ſtrong land in good order. The profit to them, is at leaſt one half beyond that on common oats. The moſt general fault in raiſing theſe oats, is allowing them to become too ripe; much of the grain is thereby loſt, and the fodder deprived of ſubſtance. Every ear ought to have ſome of the lower pickles greeniſh when cut, and even theſe will be good oats when thraſhed.

The fall in the price of cattle and ſheep, ſo general over the kingdom, has affected the dealers and farmers in this country in no inconſiderable degree. The dealers had all ſome loſs. Thoſe who drove to the *far ſouth*, as it is termed, had loſſes to ſo great an extent, as to affect the credit of ſeveral of them, whereby the injury became very general. The loſſes to the dealers in ſheep have not been ſo extenſive, owing to their ſales taking place more recently after their purchaſe.

This fall of prices ſeems to have been unavoidable. It proceeded from the ſame cauſe with the fall of the price of corn;—the good ſeaſons, the abundant growth which has increaſed all kinds of ſtock, and the extraordinary crop of lambs for three ſucceſſive years. Theſe were ſo far beyond the conſumption, that the markets and the country would have been ſooner overſtocked, had it not been for the very uncommon

loſs

loſs of ſheep, and other deficiencies occaſioned by the cold and wet ſeaſon of 1799. Till ſuch cauſe ſhall again, in ſome degree, leſſen ſtocks and produce, it cannot reaſonably be expected that prices ſhall riſe, or even keep at what they are. The extra conſumption of ſuch times as the preſent, when thouſands are provided with more than double their uſual quantities of food, will equal but a very ſmall increaſed produce given by a good ſeaſon. This points out, that the heads and hands of the inhabitants of this iſland ſhould never ceaſe in exerting their genius and invention for the ſecurity of their ſtock and crops againſt changeable and inclement ſeaſons. This is not to be done ſo much by raiſing produce upon a greater ſcale, as by increaſing the growth of early corns, winter vegetables for ſtowing, or which are not ſuſceptible of ſpring froſts, and ſuch management by manure, and the deſtruction of weeds, as will moſt likely inſure the produce to be beyond the ordinary, both in quality and quantity, in proportion to the extent of land in culture. Theſe matters deſerve the attention, not of farmers alone, but even of that ſociety of noblemen and others, who, by their laudable exertions to promote the improvement and good of their country, deſerve the gratitude of all ranks of their contemporaries and of poſterity.——*January* 19.

Inverneſs-ſhire Quarterly Report.

What was ſtated in laſt report reſpecting the crop, is fully verified by facts, it being now aſcertained that both corn and ſtraw are leſs plentiful than hitherto known in this diſtrict. All that can be ſaid in its favour is, that the grain is of good quality, having been well ripened and ſafely harveſted. We have already had a good deal of importation from the ſouthern diſtricts and from England, and much more will ſtill be wanted before the arrival of next crop. The winter having ſet in early, occaſioned many farmers to look about ſharply for provender to their cattle, which is ſcarcer than ever I witneſſed; and unleſs we have a continuation of open weather, hay and ſtraw muſt advance to an enormous price. Wheat is ſelling at 25s. per boll; Barley, 26s. to 28s.; Oats, 24s. to 25s. per boll of five firlots; Oatmeal, 24s. to 26s. per boll of nine ſtone; Bear-meal, 18s. to 19s. per boll, of ten ſtone; Barley and Oats *with fodder* have already been ſold at 50s. per boll; the latter per boll of five firlots; and Hay 1s. 8d. to 2s. per ſtone, of 24 lib. avoirdupois.

Our turnip crop being very indifferent, not half the uſual number of cattle were put to the ſtake; conſequently the butcher market muſt be ſcantily ſupplied at the latter end of ſpring. At preſent, Beef, in retail, ſells from 6d. to 8d.; Mutton, 6d per lib. Amſterdam.—The wages of journeymen maſons, laſt ſummer and autumn, were 16s. to 20s. per week; Carpenters 10s. to 12s.; Labourers, 7s. 6d. to 9s. If the grand Caledonian canal, and the intended roads and bridges go on next ſeaſon, wages will of courſe riſe conſiderably. With a view to the Canal-trade, ſeventy-five acres of arable ground have been

been ſet upon a three hundred years leaſe, for 600l. *per annum*, ſeventeen acres of which have been already ſubſet at twelve guineas per acre, and the ſubtenant is letting this portion out in ſmall building lots at a conſiderable profit.—*Jan.* 18.

Mid-Lothian Quarterly Report.

The current quarter is remarkable for the changeableneſs of the weather, and the lowneſs of the markets for grain. The former, however, has not been unpropitious to the operations of huſbandry;—ploughing, in conſequence, is well advanced; but the latter is ſelling (where ſales can be made) at a rate much below what farmers can afford. It is hoped, however, that this depreſſion will only be temporary; for, ſhould it be otherwiſe, and the capitals of thoſe who cultivate the ſoil be allowed to diſſipate, the effect might be ſilent, but certain, and perhaps would even be more to be dreaded than the arms of France. To quote prices is difficult, as thoſe of every ſucceeding week are lower than the one preceding, and barley is literally without a market. It would be for the public intereſt, that thoſe who have no immediate uſe for the ſtraw, and can otherwiſe make a ſhift for money, would bring as little grain to market as poſſible, under preſent circumſtances; for it is too obvious, that the recommendations of thoſe in power, to thraſh out, from the dread of invaſion, has been carried to an unwarrantable height, and may ultimately not only prove injurious to many individuals, but to the whole community.

Vegetation hitherto has met with no check. Wheat, young graſs, and rich paſtures, look as well and green as is uſual in the month of May, and many buſhes are budding; but this premature vegetation commonly meets with a check at a more advanced period of the ſeaſon, which is far more hurtful to the growth of plants, when the ſun is high, than the ſame ſevere weather does when he is low, and days are ſhort.

Several *ſets* of paſture graſs have already taken place, at a fall of 25 *per cent.*, and in ſome inſtances a great deal more. Yet, from the greatly increaſed expence attending cultivation, and the low price of grain, it is judged better to continue the lands in paſture, at an inferior rent, than to bring them under the plough.

The butcher markets continue fully ſupplied, without any material alteration in price. Thoſe who had a few turnips remaining after the depredations of the caterpillar, were induced, from the fall of markets, to put a greater ſtock than uſual upon winter keeping, which being ſoon exhauſted, occaſions a prolongation of the former *glut*, and will probably continue it for ſeveral weeks hence.——*Jan.* 20.

Letter from a Gentleman near Perth, January 23.

'The ſmart froſt in November did much injury to the tops of our turnips; but as it did not continue long, the roots were not materially hurt; and at this day they continue of good quality, a rare one excepted. Of late we have had rather blaſty weather, but I think the young plants

plants of clover have been benefited by the rains, and the wheats appear, in every place, ſtrong and vigorous. The winter has alſo proved favourable to ſuch as were apprehenſive of their fodder not holding out. It was generally allowed that the crop in this quarter was of far leſs bulk than ordinary, but people differed widely in opinion as to the quantity of grain it would yield. Though the markets are juſt now glutted, and prices on the declining hand, theſe things cannot be conſidered as ſufficient proofs that the crop is more productive than cuſtomary; there being reaſon to believe that if it had come to market in a manner proportional to the quantity on hand, no ſtagnation would have been felt. Some months muſt however paſs over, before this obſervation can be fully verified. In the mean time, the growers muſt feel that the prices of the preſent day are far ſhort of a fair indemnification to them, all things conſidered.

'So far as I know, the wages of maſons at preſent average 2s. 6d. per day; carpenters 2s. 3d.; labourers 1s. 4d. to 1s. 8d. Maſon work per piece—building and preparing mortar 2l. 2s. to 2l. 12s. 6d. per rood; building and furniſhing all materials 6l. to 7l. per rood. Ploughmens' wages 12l. 12s. *per annum*, with 6½ bolls of oat meal, *ſap*, ſalt, and lodging.'

Letter from a Farmer near Kelſo, Jan. 24.

'So far as the winter has gone, it has proved favourable for farming operations; conſequently, labour is tolerably well advanced. We are now ploughing the ground cleared from turnips, with a view of preparing it for ſpring wheat; and ſome people, during the two or three paſt good days, have been ſowing that grain. The turnips are laſting longer than their original appearance warranted to expect, having grown conſiderably ſince the beginning of November. Several fields remain for diſpoſal in this neighbourhood.

'The ſtack-yards with us were by no means bulky this ſeaſon, and apprehenſions are entertained that they will be nearly empty at Whitſunday. The crop, however, turns out very productive to the bulk, and a market is wanting for the quantity that is thraſhed. This has induced ſeveral farmers to keep off as much as poſſible from ſelling; but the want of money will prevent this meaſure from becoming general. Our corn merchants ſay, they have plenty of commiſſions to purchaſe, but cannot command caſh; which, of courſe, impedes ſpeculation, and will occaſion heavy ſales till the preſent glut is removed. At this time, Wheat is ſelling from 30s. to 33s.; Barley, 14s.; Oats, 14s.; Peas, 20s. to 21s.; all per Berwick boll of ſix buſhels. No beans have yet been preſented.

'For ſome time paſt, our graſs fields have exhibited an amazing verdure for the ſeaſon of the year; and perhaps this may afterwards prove hurtful to the ſheep ſtock that depend upon graſs alone. Markets for fat cattle and ſheep are not good, as we have a conſiderable quantity of the latter ſtill on hand, which muſt be diſpoſed of; but it is ſuppoſed

ſuppoſed that, in the courſe of a few weeks, theſe articles will bring laſt year's prices.'

Letter from Glaſgow, January 24.

'Since writing you the 19th October laſt, about 10,000 bolls of wheat have arrived in the Clyde from America. We have alſo had a conſiderable ſupply of that grain from the North and Eaſt of Scotland; which, with great quantities brought in from the country around, have rather, for the preſent, glutted our market, and prices in conſequence have declined conſiderably. The farmers in this neighbourhood have had very large crops of this grain laſt year, and the quality in general has turned out much finer than for ſome years paſt.

'The Iriſh ports having been ſhut, for the quarter now ending, againſt the export of oats, the only ſupplies of that grain we have had during that time, have been from Northumberland and the South of Scotland, which, with what farmers have brought in from the country, have fully ſupplied our market; and for theſe ſome weeks paſt, prices have been on the decline. We are of opinion that a great part of the oats in the neighbourhood are already brought to market, and that we muſt ſoon look to another quarter for a better ſupply. This we may have from Ireland by the end of next month; it being the general opinion, that the export of oats will be allowed from thence by that time: beſides, we ſtill expect a conſiderable ſupply of this grain from Galloway, ſhould the Liverpool market not hold out better prices than ours. From our ſtock of grain on hand, eſpecially of wheat, and our views of further ſupplies, we think prices will not advance much here for ſome time to come.

'Trade has been very dull here for theſe three months paſt, and as yet there is but little proſpect of a ſpeedy revival. The buildings which were erected here through the laſt ſummer are now finiſhing; but, by all appearance, that buſineſs will not be carried on to any extent the enſuing ſeaſon. Carpenters wages, which were once very high, are now at 15s.; Maſons, 10s. and 11s.; and labourers 9s. per week.

'State of Glaſgow Markets, January 24.

Canada wheat,	24s. to 26s.	per 240 lib.
Dantzic ditto,	31s. — 32s.	per boll Linlithgowſhire meaſure.
Scotch ditto,	26s. — 28s.	
Barley,	20s. — 21s.	ditto Stirlingſhire ditto.
Beans and Peas,	19s. — 21s.	
Potato oats,	20s. — 22s.	
Small ditto,	16s. — 19s.	
Oat meal,	18s. — 21s.	ditto of 140 lib. Engliſh.

Hay in quantities, 9d.—in retail 10d. per ſtone.
Straw in ditto, 3d.— ditto 4d. ditto.'

Fife

Fife Quarterly Report.

After harveſt the weather was highly favourable for preparing and ſowing wheat; and through winter has been, on the whole, open and temperate. A greater quantity of wheat was ſown than cuſtomary, which makes at preſent a beautiful appearance.

The grain of crop 1803 is much ſuperior to that of the former year. Oats, however, were generally a thin crop, and do not turn out many bolls per acre. The demand for barley is very limited, and prices are daily falling. A conſiderable part of crop 1802 remaining on hand, occaſions this ſpecies of grain to prove a heavy article to the farmer. Many people do not know what to make of it, the intereſt of the diſtiller inducing him to import Engliſh barley; and ſome of them have declared they would not pay the malt-duty, even if the farmer would give them the barley of crop 1802 for nothing.

How rents are to be paid under theſe circumſtances, is a problem not eaſily ſolved. Thoſe who are about to renew leaſes, ought, in making offers, ſeriouſly to reflect upon theſe things, if they wiſh to avoid ruin; and it is no leſs the buſineſs of the landholder and legiſlator to inveſtigate the cauſes of, and endeavour to remove an evil, which threatens to affect the value of landed property materially. Inferior grain cannot be uſed in a profitable way, except in diſtillation; but high duties effectually prevent diſtillers from purchaſing it, and give a decided preference to grain of ſuperior quality.

Oat meal continues reaſonable in price, never above 20s., nor under 16s. per boll of eight ſtone, and the markets are well ſupplied. Potatoes were an unproductive crop, and are now ſelling at 9s. to 10s. per boll. The demand for wheat is dull, and prices about 23s. per boll.

Owing to the failure of turnips, the number of fat cattle is not great, which has kept up the price of beef. For lean cattle there is little demand, and prices continue falling. Grazing in this county turned out a bad concern laſt year; many of the graziers having loſt one third, others one half, and ſome even the whole of their rent, thoſe of the laſt claſs having ſold as cheap as they bought: therefore it is ſuppoſed that graſs rents muſt fall this year conſiderably.

The wages of workmen and tradeſmen, and the price of wood, iron, and every other article uſed upon a farm, are advanced beyond precedent. Theſe, with the want of a market for farm produce, are certainly not calculated to advance improvement; but muſt in the end depreſs the tenantry, and leſſen the rent-rolls of proprietors.—*Jan.* 23.

Eaſt-Lothian Quarterly Report.

The months of December and January furniſhed variable weather, which of courſe impeded field-work conſiderably, and even leſſened the value of ſuch operations as were executed. It is a comfortable circumſtance that an increaſed quantity of wheat was put into the ground in the

the moſt favourable manner; for, in the preſent view of rural matters, little dependence can be placed upon a ſpring ſowing of that grain. Indeed, the portion of turnip land already ridged up is inconſiderable, the rains through the month having reſtricted ploughing to the graſs lands; but many of theſe, unleſs favoured by froſt, have been turned over in a ſtate which by no means will forward the harrowing proceſs, or prove beneficial to the ſucceeding crop.

Whether the wetneſs of the weather has occaſioned thraſhing to be more attended to than uſual, or whether that operation has been haſtened by other circumſtances, cannot be poſitively aſcertained; but it is certain, that a greater quantity of grain has lately been preſented for ſale, than the demand of the market required. This, as muſt always happen, has occaſioned a conſiderable reduction of prices, though hitherto ſtill not in the degree that has occurred in ſeveral other diſtricts. Barley and oats have felt the chief depreſſion; the former grain is generally of good quality; but few of the latter, early kinds excepted, are above mediocrity. Potato oats have chiefly been purchaſed by the millers, while the Angus and Blainſleys have gone for horſe feed. The ſuperiority of the potato oats, even on middling ſoils, is evident this year; though ſtill this does not eſtabliſh that they are really better calculated for every kind of ſoil than the old varieties. Owing to early growth, an eſcape was made from the ravages of the caterpillar, which accounts in ſome meaſure for their great ſuperiority this ſeaſon.

Very little alteration has as yet taken place in the value of cattle and ſheep; and it may be remarked, that prices in the *dead* market have rarely this winter been in uniſon with thoſe in the *living*. The ſtock at this time on hand is much below that of former years; though there is no want of inferior mutton, which is ſold *nominally* at a low price, but, in point of conſumption, is in reality higheſt to the purchaſer. If other diſtricts are not better ſtocked than Eaſt-Lothian, it requires no proof that a ſcarcity muſt erelong be felt. Sheep will probably continue longeſt to be plentiful; but cattle of good quality, according to every appearance, will ſoon be much in demand.

The value of labour, eſpecially that of maſons and carpenters, has of late prodigiouſly increaſed in this diſtrict. Building per rood, which not long ago was only 20s., and in 1802, 33s., got up, laſt ſummer, to 45s.; and wages, per day, were from 3s. 6d. to 4s., nay, even 5s. has been paid in ſome caſes for good maſons. This riſe was chiefly occaſioned by the erection of barracks at Haddington and Dunbar, where a good deal of money was freely circulated. It is plain, that no funds are in the farmer's hand for carrying forward new works upon ſuch extravagant terms; conſequently, a reduction is much to be wiſhed for, otherwiſe the building of farm-offices and ſtone walls muſt in a great meaſure be either neglected or ſuperficially executed. It is thought the evil will cure itſelf; a diſpoſition to work on lower terms having already appeared.

Coals, which in this climate may be ranked among the neceſſaries of life, have been uncommonly ſcarce this winter, and only to be got at ſome

ſome of the hills, by waiting one or two days till they were turned out. Whether the ſyſtem adopted at the collieries is defective, or whether the colliers, as a body, can be regulated like other people, is difficult to determine; but the evil to the country at large, and eſpecially to the tenantry, by thus detaining men and horſes ſo long, is abundantly notorious, and the cauſe merits an inveſtigation. Perhaps the evil may be traced to the act of Parliament which emancipated the colliers—an act well intended by its ſupporters, but, like many other philanthropical plans, neither calculated to increaſe individual happineſs nor public proſperity.

It is much to be wiſhed that Government, in the formation of tax-bills, would employ people qualified to expreſs their meaning in a plain manner, and that previous inquiries were always made at profeſſional people, before ſuch bills were paſſed, whether their execution was a practicable meaſure. This obſervation occurs from contemplating the difficulties attendant upon the income or property act of laſt ſeſſion, the numerous clauſes of which few people pretend to underſtand; though aſſuredly it was not an impoſſible taſk to regulate a five *per cent.* exaction with clearneſs and preciſion. In fact, the trouble and uneaſineſs given to individuals, is in many inſtances of greater importance to them than even the amount of their tax. Take an inſtance—If a farm has been ſet for more than ſeven years, the occupier is called upon to make a return of its preſent value, and if he makes a falſe return, i. e. undervalues the land, he is liable to double duty. Now, as it rarely happens that two people agree reſpecting the preciſe value of land, a tenant may thus be made liable, becauſe he holds an opinion different from others reſpecting the premiſes in his occupation. Another inſtance may be given as a proof of the degree of wiſdom poſſeſſed by the framers of the bill. Tenants of houſes are required to make returns of their reſpective rents, and to pay both their own and the proprietor's tax. Now it happens that the *occupiers* of more than one half of the houſes in the kingdom will not be liable to the tax; conſequently, while nothing is to be got from them as tenants, the very trouble of aſſeſſing and collecting the proprietors tax (in many inſtances the tax will not amount to a couple of ſhillings) will exceed the worth of the money ſo collected, independent of the trouble given to the private individuals concerned. It is believed that a ſenſe of theſe things has induced the tax-office, in ſome caſes, to allow returns from proprietors; and certainly they acted wiſely in giving ſuch permiſſion; but it is a poor compliment to the accuracy of the bill, that a neceſſity ariſes for executing it in a way directly contrary to the forms and regulations preſcribed, and in the face of numerous penalties. In a word, if a fine or penalty is due from any perſon, it is from the author of a bill which, in one way or other, bids defiance to the collected ſenſe of the Britiſh nation, and is little better than a ſealed book to the great body of the people upon whom it is meant to operate.

For the information of farmers in Scotland, it may be ſtated, that their profits or gains, by the 194th clauſe of the bill, are to be rated

at one half of the annual rent; therefore, according to our view of the ſubject, none are liable to the *minimum* tax who pay below 120l. *per annum*; nor to the *maximum* tax, unleſs their rent exceeds 300l. It appears alſo, from the third paragraph of ſchedule B, that *one eighth* is to be deducted from the aſcertained rent, which, to be ſure, will afford great relief to many tenants, particularly thoſe of ſmall farms.—— *Jan.* 28.

ENGLAND.

Letter from George Boſwell Eſq. dated Piddletown, Dorſetſhire, January 6. 1804.

'The continued ſeries of dry weather through both the ſummer and autumn, ſuch as we never experienced before, occaſioned the hay crops to be very light, with ſcarcely any aftermath. The watered meadows ſuffered almoſt as much as the dry meadows; for the ſprings were ſo very low, that we could not flood them. The ſale of ſheep and lambs, in the autumn, was exceeding dull, and the prices much depreciated; the former as much as 12s. per head, and the latter 6s. or more: both mended at the latter end of October, and ſtill more ſo in November. The turnip crop was, for the ſame reaſon (the long drought), a very partial one; not equal to half a general one. I had determined to make a comparative trial of the weight of a given quantity, not leſs than four ſquare perches of drilled turnips againſt the like quantity of broadcaſt; but the weather has been ſo long wet, that I almoſt deſpair of making it this ſeaſon: If I can get a few dry days before the froſt ſet in, I will yet do it.

'No one here ſows drilled turnips in wide rows, 27 or 30 inches, except myſelf, and I am indebted to Mr Culley for the firſt hint.

'The wheat crop was comparatively good, the grain decent, the produce not abundant; in many places a good deal of ſmut was found; but I am, and have been, for theſe twenty years paſt, free from it. The barley crop was pretty abundant in quantity, grain ſmall and rather light, but it works remarkably well in the malt-houſe. Oats were a tolerable crop, though rather long-tailed and thin-bodied, the potato oats excepted, which are good in quality, and yield a very decent produce. They were introduced from the north about two years ſince; and, if ſown on good land, will continue to be in repute, though there are large quantities of black oats ſown in this and the conterminous county. I do not think any of the corn crops are ſo bulky as they were the year before.

'Fat beaſts, or rather what ought to be fat, not plentiful, and are ſelling to the butchers at the time they would pay the graziers moſt for keeping; but people are afraid the food will not hold out the ſeaſon.

'Sheep

'Sheep on the rich lands would get on apace; but the continual rain is againſt them, eſpecially here, where ſcarcely any turnips are carted off, but conſumed on the land they grew on. The early ewes are now in full ſeaſon of yeaning, and conſiderable quantities of lambs are dropping every day. One farmer in the neighbourhood has had more than 600 already. None are houſed here, as we never feed any houſe lamb in this county. The turnips are almoſt all eaten by ſheep, very few by beaſts, none by ſtore cattle. Sheep and lambs entirely engage the farmer's attention—every thing gives way to the ſheep ſyſtem. Thoſe who cart off a part of the turnips (the number is very few), carry them upon green land; but the almoſt univerſal practice is to eat the turnips on the land they grow on, by giving them ſmall quantities at a time by means of hurdles, which are removed daily, that the ſheep may always have a certain quantity freſh. At night the ſheep are encloſed in a pen or fold, allowing about a yard ſquare of ground to each; and this fold is removed every day to a freſh ſpot regularly over the field. Strange infatuation! you will ſay. Of your mode of feeding, it is ſaid here, What! let the ſheep lye ſcattered all over the field!—Strange infatuation indeed! Perhaps thoſe who have attentively obſerved both methods, will think both right. This I will venture to ſay: You, if here, would ſoon do as they do here. But I will not ſay, We, if there, would do as you. Therefore the prejudices here are the ſtrongeſt, and moſt to be condemned.

'Swine are become numerous, conſequently cheap. The reaſon is obvious: Of all the various ſpecies of farming ſtock this is the ſooneſt repleniſhed, and comes the quickeſt to market; the fall in price is therefore great; and as corn is ſinking in price, pigs will be fattened in conſiderable quantities, and aſſiſt in reducing the price of butcher meat.

'The ſtate of the weather may be given in few words. The drought continued till the beginning of November; from thence to the middle of December, the weather was wet, but not attended with heavy rains; from thence to the end of the year, very tempeſtuous, with abundance of rain. Many people waited for the rain before they began to ſow their wheat; but, after a fortnight, the land got ſo wet, and the horſes ſunk ſo deep in the fallow, that they were obliged to defer finiſhing till the ſpring—a practice ſeldom uſed here.

'How is it, in a climate evidently warmer, we cannot ſow wheat in the ſpring with ſucceſs, when, in the north, it is not unfrequent to ſow a great deal? Our markets, at Chriſtmas, were, Beef (not fat) from 6d. to 7d. per lib. ſink offal; Mutton 7d.; Veal begins to come into market (good) from 8d. to 9d.; Pork in great plenty from 8s. to 9s. per ſcore (20 lib.); Butter 15d. per lib. of 18 oz. (every thing elſe only 16 oz.); good Cheeſe 80s. per cwt.—but little of this in Dorſetſhire; Cheeſe made after butter at 40s. per cwt.—of this ſort large quantities are made through the ſummer. Wheat from 6s. to 6s. 6d., and the very beſt 7s. per buſhel, Wincheſter—all ſorts of grain are ſold by this meaſure: Barley (our ſtaple grain) ſinks faſt—it was

25s. 24s. 23s. and now will ſcarcely bring 21s. per quarter; Oats, dear, 26s. to 28s. per quarter; Winter Tares, about 7s. per buſhel; Summer Tares and Peas will ſoon find a market—I mean about Candlemas; Hay, owing to the mildneſs of the ſeaſon, will not ſell for more than 4l. per ton; Turnips are ſeldom ſold here—the growers conſume them with their own ſtock, ſheep and lambs, except a few who take in hogs, i. e. lambs after they are ſhorn (which is always in the firſt ſummer), from Michaelmas to Ladyday to keep, at from 6s. to 8s. per head. Theſe are kept on turnips (if the farmer grow any), graſs, clover, and hay: thus a deficiency of turnips is remedied. It is very rare indeed that any are ſold by the acre. Very few people would give 3l. per acre for good turnips; and I do not know a perſon who would give 5l. per acre, even to ſave their ſheep from ſtarving. They are *all* ſown broad-caſt, hoed decently, and even ſome twice hoed. The high price of labour is much againſt us when let by the acre; and when the work is done by the day, they are very remiſs in their hours, as well as labour. Our laws are good, but we are very relax in enforcing them.

'The young cattle, particularly where there were watered meadows, remained out, &c. till almoſt Chriſtmas, with very little ſtraw, and ſome without any. They are now living in the yards upon ſtraw *only*. Thoſe cows that have calved, or are near calving, have a little hay given to them, but no turnips. We certainly are not œconomical in the management of turnips, or, which I believe is the caſe, our breed of ſheep conſume more food than yours. We reckon 100 hogs (lambs yeaned the ſpring before) will conſume ten acres of turnips, with not a little hay, and the run of a certain quantity of graſs land and clovers to draw back upon, between Michaelmas and Ladyday.

'The young clovers appeared in the autumn very thin; they now are much mended; and, if not injured by the froſt in the winter, will be a ſaving crop. The watered meadows now look delightfully; a beautiful deep verdure appears, where, a few weeks ſince, ſcarce a blade of graſs could be ſeen; and, if the winter continue mild, they will be ready to receive the ewes and lambs by the middle of February, and, by the end of March, the flock ſheep;—all then are drove to the fold upon the fallows intended for barley every night, the fold moved every day:—500 ſheep will thus manure an acre (Engliſh) in about a week, ſuperior, for one ſeaſon, to any kind of manure whatever; and the ſheep are the healthier for it. Thoſe farms, which keep only wether flocks, fold all the year through. The watered meadows ſupport the ſheep till the 1ſt or 2d week in May, and afterwards yield from ½ to 2 tons of hay by the beginning and middle of July. The ſtubbles are nearly all fallowed, and will, when the weather permits, be dreſſed down for a ſecond ploughing. Turnips begin to ſhoot out freſh; they will, if not checked by the froſt, be much too forward, and not continue uſeful ſo long as uſual.'

Letter

Letter from a Farmer in Wales, Jan. 15.

'The winter here ſet in early, and in November, we experienced about ten days ſevere froſt; we then had every reaſon to dread a long and hard winter, and began foddering our cattle three weeks ſooner than in ordinary years; and, although we had reaſon to think, after harveſt, that there would be abundance of good winter proviſion for our ſtock, we now ſee, that if we have an untoward ſpring, many will be ſhort. The weather, of late, has been open and mild, with heavy rains and great floods. Wheat in the ground has a good appearance, but ploughing ſeems to be behind in moſt places, the land being too wet. The ſheep, as far as I have ſeen, look poor and unhealthy; and where they have begun to drop their lambs, the ewes are thought to have little milk, and the lambs weak. Our markets for corn are fully ſupplied, and prices on the drop. Wheat and barley have not varied much of late; but oats have lowered 5s. *per* quarter within this laſt fortnight; the beſt oats, yeſterday, were not worth more than 19s. the quarter. Butcher meat, viz. beef, mutton, and veal, has advanced ſince Chriſtmas, and it is thought will ſoon be as dear as ever; good Beef or Mutton, is now at 8d. per lib.; Pig meat cheap; Bacon whole, viz. head, feet, &c. at 5d. and 5½d. per pound, ſome of the largeſt ſize at 4½d. Owing to the low price of barley, and the vaſt number of ſtore pigs on hand, there is more pig meat at market than ever before remembered, which has been a lucky circumſtance for the lower claſs, as butter and cheeſe are at very high prices; freſh butter is 1s. 4d., and good cheeſe 10d. and 11d. per lib. At St Nicolas Fair, the 17th of December, oxen (contrary to expectation) ſold well, and I believe few or none returned home, and cattle of every deſcription were dearer. Sheep ſtill keep dull, and will do ſo, till we have a demand from the eaſt: we like to ſee them go eaſtward in great droves. Mutton has been in great plenty at market for ſome months paſt, and would have certainly been at a very low price, had it not been for the high wages given to tradeſmen and labourers, which enables them to live on the beſt of every thing; and very few of the labouring men here, ever think of laying up a ſhilling for a rainy day, but one and all truſt to the pariſh for that.

'I mentioned in a former letter the encloſing of Cardiff heath; but as the buſineſs was only then in its infancy, I declined ſaying much on the different modes of proceeding, till I ſaw the crops produced. In the year 1801, an act of Parliament paſſed for dividing and encloſing this common, containing from eleven to twelve hundred acres, lying to the north of the town of Cardiff, and about a mile diſtant therefrom. This waſte originally was the property of the burgh of Cardiff; but, by negligently ſuffering every one to graze it, they loſt this right in a great meaſure, and it became free to all the country. It was once of much greater extent; but being no one's property, it was ſeized on

by all. When a poor man could ſcrape together enough to build a cot, there he ſat down; and, by encloſing a freſh piece of garden every year, many have come to farms of conſiderable extent. It was become a plantation of cottagers, whoſe dependence for a living, was on keeping two or three ſmall horſes to carry coal or iron, and they were ſo numerous, that they ſtarved each other. About twenty-four years ago, the neighbouring gentlemen put a ſtop to their further increaſe, by drawing down all new encroachments; and, two years back, in conſequence of the act of Parliament already mentioned, a certain proportion was ſold to pay for ſurveying, making new roads, &c. &c.; another part, to the amount of near 300 acres, was allotted to the town of Cardiff, with liberty to improve or ſell; a third portion was for the lord of the manor; and what remained, was divided amongſt *the Brikers*, or thoſe whoſe eſtates joined the commons, in proportion to the extent of their eſtates. The portion ſold, was divided into ſmall lots, which brought, ſome ten, and ſome as high as eighteen pounds the acre. Every obſtacle being thus removed, about the beginning of January 1802, they began to encloſe with ditch and hedge; and by the middle of May, the whole was encloſed, except that part ſet aſide for the town of Cardiff, and about fifty acres allotted to a gentleman, whoſe tenant claimed the privilege during his leaſe, he having rented his farm with a right of common. As it fell to many hands, the encloſures vary much in ſize, from half an acre to forty acres. The ſoil, though of two different kinds, does not vary a great deal, being principally of a hard gravel at bottom, with a depth of a foot or more of black light earth, covered with ſmall furze (or whins) on the ſurface where dry; the reſt of a boggy nature, with a hard ſharp gravel at bottom; and the ſurface, a black light peat earth, through the middle of which they made a main drain of nine feet wide, and ſix feet deep, which drain was done by the commiſſioners, and has carried off the water effectually. There have been various methods of improving practiſed; and in ſpring and ſummer 1802, they puſhed forward with great ſpirit; ſeveral fields were, that year, ploughed and ſown with oats; others dug with ſpades and planted with potatoes; others ſown with turnips, and one field of eight acres pared with the Breſt plough and burnt, having a light liming given it. The turnips were a fair crop where lime was applied, but where neglected, they failed entirely. Potatoes, in moſt inſtances, proved good, and the oats but poor. During that ſummer, paring and burning were carried on with great ſucceſs, the year proving favourable; and by the middle of October, there was above 100 acres ſown with wheat; and in the ſpring, many fields of oats and barley, as alſo of potatoes and turnips. Wherever lime was given, the wheat was good, and the greater quantity of lime, the greater crop of wheat; where no lime was given, the wheat failed in every inſtance; one field of ſeven acres, fallowed without paring and burning, and well limed, proved a fine crop; another piece of ſix acres, ſuppoſed the beſt on the heath, fallowed the ſame as the ſeven-acre piece, but not limed, proved not half a crop; three

three fields adjoining, ſuppoſed good land, pared and burnt and ſown in good ſeaſon, but without lime, alſo failed; ſeven acres of oats, managed the ſame way, turned out a fair crop; the barley failed in every inſtance; eight acres of oats after turnips, which had a light liming, yielded a very great crop. The turnips this year are thin but healthy, and of good ſize. There is a great deal of wheat ſown, all of which, I believe, had a good liming, but ſome of the land was only fallowed without burning the ſurface. The whole looks healthy at preſent; but it did the ſame laſt year at this time; and where it failed, it went off in April. Our farmers, at preſent, ſeem at a ſtand; the high price of labour, and the low rate of farm produce, have damped all improvements here in that way; but the increaſe of iron furnaces and collieries, both in this county and Monmouth, goes on to a great extent; and numbers of men are regularly employed at high wages; which, together with the conſtant drain for the army and navy, with the number of volunteers raiſed and often called out, muſt cauſe farm labour to be much neglected.

'The current price for labourers is 2s. per day, and near a great town 2s. 6d.; maſons and carpenters 2s. 6d. and 3s., but more about towns, and at the iron and coal-works, or the new rail-roads, &c. &c. where they work moſtly by the piece. Labourers expect to earn from 20s. to 24s. per week. Gentlemen here, at leaſt many of them, make a pointed rule, and ſay, we will not give more to our labourers than 8s. and and 9s. per week; and they get old men, or ſome that no others will employ, for that money; but a farmer muſt have able hands, that can do his work, and muſt of courſe pay for them. I have always ſuppoſed, for theſe ſome years paſt, that the price of labour was higher with us than in any other part diſtant from London. In July 1802, I was obliged to attend at Hereford aſſizes, and being detained there ſome days, with ſeveral other farmers, our ſpare time was employed in going round the country to ſee and hear if any thing new was to be learned, and in converſing with farmers and labourers. We found the rate of labour in that part 6s. and 7s. per week, when we were giving 10s. In the weſt of Wales, labour is lower than with us, and numbers of young men from Caermarthen and Pembrokeſhires come here for work.'

Lincolnſhire Quarterly Report.

Lean cattle have a dull ſale, and prices are rather lower than formerly. Beef in retail ſells from 6d. to 7d. per lib., and mutton from 7d. to 8d. The wool of this county, which is of the long, or combing ſort, brings at market from 12d. to 13½d. per lib.; and hay, which with us is an abundant article, will not fetch more than 3s. 6d. and 4s. per 8 ſtone, or 112 lib.

Our corn markets are well ſupplied; and, as laſt ſeaſon was uncommonly favourable for the fenny diſtricts of this county, the general qualities are ſuperior to thoſe of our common produce. Wheat ſells from 48s. to 60s.; barley, 20s. to 24s.; rye, 28s. to 31s.; oats, 17s. to 20s.; beans and peas, 32s. to 35s., all per quarter of 8 Wincheſter buſhels. Potatoes from 4d. to 6d. per peck.

Owing to the improvements carrying on in the fens, and the number of men employed in the army and volunteer corps, a ſcarcity of hands has been lately experienced, and the value of labour has of courſe increaſed. Farm labourers receive 2s. per day in winter, 3s. and 3s. 6d. in ſummer. Carpenters 3s. to 4s.; apprentices 2s. to 3s. Maſons 3s. 6d.; all without board.——*Jan.* 16.

Eſſex Quarterly Report.

Since laſt report, the wheat has aſſumed a fine appearance; but many people, it is to be feared, have fallen into the error of ſowing too thick in this favourable ſeaſon. In the autumn of 1802, wheat was generally ſown very late, and in many inſtances an extra quantity of ſeed was not allowed—without reflecting that late ſown wheat has not that opportunity of *ſtubbing* enjoyed by that depoſited earlier. In the year 1803, where this was not attended to, the crop, in many inſtances, eſpecially upon poor lands, having proved thin and deficient, more ſeed was given than requiſite in ſuch a genial and temperate ſeaſon. Perhaps they will find the effects of it in harveſt; for we always obſerve early ſown wheat, when too thick in the firſt part of the year, turn out very thin and weak when ready for the ſickle. Tares look remarkably well, and promiſe an abundance; perhaps owing to the opportunity there was of ſowing them early; for it is a maxim with moſt good farmers to put them into the ground immediately after harveſt, if poſſible. Some keep a plough at work during harveſt, to prepare the land ſufficiently early for their reception. Clovers look well and luxuriant. The millers no longer complain of a deficiency of water, having received a moſt copious ſupply within theſe laſt two months. There has not been ſo much at a time for three years paſt, though field labour has been conſiderably retarded thereby. A few fences and ditches are occaſionally made, but the chief employ for huſbandmen at preſent is thraſhing. A dry froſt is much wanted for various purpoſes of agriculture, particularly for the eſſential operation of carrying manure upon the lands. The prices of wheat with us are very different, the qualities being more variable than uſual, owing to the blights and mildews of laſt ſummer.

Where work is done by the day, 10s. per week is the general rate, unleſs cloſe to the metropolis, where it is higher. Upon large farms, it is in ſome places the cuſtom to board two men and a cow-boy. The *head* man has from 8 to 12 guineas, the *under man* from 5 to 7 guineas, and a boy from 2 to 4 guineas. Many barracks have lately been erected in the county, which makes the wages of carpenters and bricklayers very high; not leſs than from 3s. to 6s. a day is given by the builders; but, independent of them, carpenters charge 18s. per week, bricklayers 17s. Maſons will earn from 4s. to 5s. per day. Poor-rates, for this laſt quarter, in the pariſh of Bocking, are 6s. 6d. per pound of valuation. The mills and machines, which ſince the laſt war have been introduced by the manufacturers into this diſtrict from Yorkſhire, and which were uſed chiefly in the manufacturing of baize, are now employ-

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ed in making blankets for Government, ſo that there are ſtill half the former quantity of poor earning an honeſt livelihood, which may be conſidered as a happy circumſtance to that pariſh. In the laſt war no manufactory was carried on, and the rates were 48s. in the pound.

It is the intention of this county to make an application to Parliament, in conſequence of the preſent malt-duty; and the two neighbouring counties of Norfolk and Suffolk mean to uſe ſimilar meaſures for procuring relief.——*Jan.* 16.

Yorkſhire Quarterly Report.

On a compariſon of the preſent period with the correſponding one of laſt year, we find a ſtrongly marked reverſe, in regard to the prices of produce, and conſequent encouragement to rural exertions. They were then at a fair *ratio* between the producer and conſumer; they are now ſo low as to be rather diſcouraging to the grower: but as the cauſe may be deemed, in ſome degree, temporary and occaſional, as produced by the peculiar ſituation of public affairs, theſe circumſtances of diſcouragement may perhaps be the leſs inſiſted on at preſent.

Many of the wheat ſtacks yield under the flail much leſs than was expected—the mildew, &c. having been more injurious in many parts than the general report before and during the harveſt ſeemed to allow. Barley and oats are good in quality, and about a fair average in point of product: not ſo beans, which are deficient in quantity.

A conſiderable extent of our arable ſurface is under wheats, which were well ſown; and though the weather has been of late unuſually variable, with ſevere froſts, much ſnow, and heavy and continued falls of rain, they do not appear much worſe than uſual; yet thoſe on wet, poor ſoils, wanting manure, ſeem on the wane, from the preſent exceſs of moiſture.

The turnip crops were recruited, in ſome degree, by the latter autumnal rains; inſomuch that many of them bear the feeding of ſtock much longer than could have been expected. They have been ſold to flock-maſters, at very high prices—from 4 to 7 guineas per ſtatute acre, to be eaten on the ground by ſheep; but, except on very dry layers, the ſheep do not thrive on them during the preſent extremely wet weather. Potatoes are not very plentiful, but good in quality; the price about 3s. per buſhel. Hay is now ſelling at from 4 to 7 guineas per ton.

Clovers and other graſſes have planted thin, though much better than the exceſſive drought of the ſummer afforded any proſpect of. Fat and lean cattle, and ſheep, are at preſent rather higher in price than they have been of late. Good horſes of all ſorts are dear. Beef, mutton, and veal 7d. per lib. Butter 1s. 6d. Beſt wheat 7s. Barley 3s. 6d. Oats 2s. 6d. Beans 5s. per buſhel. Rape and flax ſeed are articles of value, about 45l. per laſt, and deemed riſing.

The wages of maſons and carpenters are about 2s. 6d. to 3s. per day. Thoſe of farming labourers from 1s. 6d. to 2s. 6d. Poſſibly theſe may

be

be differently appreciated in the ſpring than they are during the preſent dull ſeaſon of the year; eſpecially if the Chief Conſul ſhould ſucceed in cutting out ſome other work for the country.——*Jan.* 18.

Norfolk Quarterly Report.

If, as a very intelligent writer * has lately aſſerted, 'equality between the population of a country and the means of ſubſiſtence furniſhed by its territory, is a law of nature;' and if, as I believe is aſcertained by a late pretty accurate inquiry, the population of this kingdom has within a few years conſiderably increaſed, it follows as a legitimate deduction from theſe premiſes, either that we muſt prepare to meet this increaſed call for occupation and ſubſiſtence with increaſed reſources of employment, and more particularly with an augmentation of the ſtaff of life—for none can work, who cannot eat; or that this augmented population, which nations ſo much pride themſelves upon, and conſider as one of the prime nerves of the ſtate, will prove any thing rather than a bleſſing; for it muſt eventually bring down upon the people at large (in all countries where a material diſproportion exiſts on the ſide of population), famine, and all its attendant horrors.

Every government, therefore, ought to exert all its energies to encourage and augment the produce of huſbandry; and every private individual, who engages in this laudable attempt, is a true friend to his country, and perhaps, even in the humble office of a reporter, may contribute his mite to the public welfare. Impreſſed with this idea, I again take up my pen to give you ſome few obſervations, (the ſeaſon ſuggeſts but few), on the preſent agricultural appearances and occurrences in the weſtern part of the county of Norfolk, a portion of the kingdom which has been declared, long ſince, by Royal authority (Charles II.) uſeleſs for every good purpoſe, except to furniſh materials for repairing the roads throughout the reſt of his Majeſty's dominions. But, by the by, ſurely this '*mutton-eating king*,' as the facetious Rocheſter is ſaid to have denominated him, never taſted *Norfolk mutton*, or he would have appreciated, more juſtly, the value of a county which produced even then ſo exquiſite a repaſt; and now, not only plentifully ſupplies its increaſed population, but every year ſpares a conſiderable ſurplus for its leſs-favoured neighbours.

Sowing of wheat commenced early. The ſeed quickly vegetated, and, encouraged by an open quarter, and a ſucceſſion of warm ſhowers, now covers the ground with a full ſtock of luxuriant plants. The rains have lately fallen heavy, and almoſt inceſſantly; but though theſe are frequently productive of much miſchief on ſtrong ſoils, they ſeldom are ſo copious at this ſeaſon as to occaſion any material injury to the light, ſandy, and gravelly fields of Norfolk. I confeſs, however, I do not wiſh to ſee my wheat, on theſe ſoils, aſſume too early an appearance

* Malthus on population.

ance of luxuriance; it impoverishes the soil, brings on premature debility, and so completely exhausts the plant before the fiery day of trial (summer) arrives, that it generally produces a feeble stem, bearing a short, upright, and badly filled ear. It presents (as I farm, I love to moralize) no unapt emblem of a young, improvident spendthrift, who wastes that substance and those powers in the prime, which ought to be carefully reserved for the support and solace of the autumn of life. I love to see my wheat gather and thicken in the spring, employing, if I may be allowed to pursue the allusion, the resources which are to nourish and support it, with prudent economy; not dissipating in a few months, what ought to be wisely husbanded for many. Hence the stem generally grows vigorous and healthy; and the long ear, bending with its precious weight, gives promise, which it seldom disappoints, of a plenteous produce of heavy grain. There is another misfortune frequently attending this premature luxuriance. It is an old proverb, 'An ill weed grows with speed;'—in this instance truly verified. The most mischievous *weedy* enemy to wheat, on these light soils is, in the provincial dialect of the country, called '*red weed*,' the wild poppy. This 'grows with its growth, and strengthens with its strength;' and, from an early and rapid progress, bidding defiance to any future severity of weather, frequently acquires, and maintains such an ascendancy, as completely to choke and ruin the crop. And the misfortune is, that it is almost impossible to destroy, or even to check this pernicious weed; for tillage, by increasing pulverization, liberates from the clod these diminutive seeds with which the land has been impregnated for centuries, and thus only increases the evil. Winter tares are equally luxuriant as the wheat; but here the same objections do not apply. Tares are principally designed to furnish green food in the early part of the summer; are cut before the weeds (many of which are eaten with equal avidity by the cattle) begin to shed their seed, and therefore their present appearance is matter of exultation.—Artificial grasses have also produced a full plant, healthy and forward.

The turnip crop is certainly, and more especially upon the strong wheat soils, extremely defective, and the price in the early part of the winter was high; but the mild and open quarter which succeeded the harvest, has enabled the sheep master to make a longer reserve of them than usual; the demand has, at present, considerably decreased, and the price is consequently reduced; though, in many instances, they are already beginning to decay, and a change of weather may again bring them into demand. The value of corn certainly continues much too low to allow the farmer an equitable profit. Barley of the last harvest is a productive crop; but of the wheat I entertain a very different opinion: I know many instances where the produce per acre has not exceeded, some, where it has not reached one quarter and a half, and where the weight has not been more than 49 lib. per bushel Winchester. I do not think I average the common crop too high, when I state it at two quarters and a half per acre, and the weight at 59 lib. per bushel.

Calculate

Calculate the deficiency of flour from every acre of wheat, and, as the calamity is not confined to one, but extends itself over many usually productive districts, it must prove a matter of surprize, that the price of wheat has hitherto continued so low, and is still, in the language of Mark-Lane, 'looking downwards.'

The profits on arable and grazing lands, this year, will admit of no comparison; the grazier has been the only favoured agriculturist. His profits must have been considerable; for though he certainly bought dear, he sold out of all proportion dearer.——*Jan.* 18.

Northumberland Quarterly Report.

The latter part of the year 1803 was remarkable for the frost setting in so early as the middle of November, and continuing till the 11th curt., with the exception of a few days in the latter end of November, and beginning and end of December. The snow was never in great abundance; the greatest quantities fell on the 5th and 6th December and the 7th January, but did not exceed 18 inches in depth on the plains or low grounds. Since the frost ceased, the weather has been mild and fresh; the grass grounds were seldom seen with a more verdant appearance, and the wheats are looking remarkably well.

From the above circumstances, the ploughing is not so forward as it ought to have been, and many clover leas and other grounds that were intended to be opened before Christmas, are only now in hand.

The markets for fat stock have varied little through the winter; the present prices are, for beef, from 7s. to 7s. 6d. per stone (of 14 lib.) sink, and for mutton from 7d. to 7½d. per lib, sink. Our corn markets are very dull; wheat from 5s. 6d. to 6s. per bushel; barley 2s. 2d. to 2s. 6d.; oats 2s. 2d. to 2s. 8d.; pease 3s. 6d. to 4s.

The price of barley being less than the price of oats, has induced many farmers to feed their horses with the former, and sell the latter; as oats may be turned into money, but barley cannot be vended in this district at almost any price. Is this owing to a superabundant crop in other districts? (which is not the case here;) or to the additional duty on malt? which tempts the consumers of that article to substitute less expensive, but probably more dangerous substances in its room. Whatever may be the cause, the consequence must be, that the farmer will grow less of this grain, as he cannot afford to raise it at such reduced prices, considering the advanced rent of lands, additional taxes, and the great advance of labourers wages, which, in general, are one third more, and in some places double, what they were ten years ago.

Where artificers are to be employed, their wages are even more than doubled. Carpenters and masons, who used to work for nine shillings a-week, advanced, about four years since, to fifteen, and last year to *twenty-one shillings* per week. Such high wages may be afforded by manufacturers, who are making thirty or forty *per cent.* of their capital, or by undertakers of jobs; but cannot be paid by a farmer, who

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ſells barley at 2s. 2d. per buſhel, and is ſcarcely making common intereſt of the money he has employed.—*Jan.* 21.

Letter from London, Jan. 23.

'We have had a large ſupply of all kinds of grain, for two months paſt, at Mark-Lane, both of home and foreign growth; and prices, which in general had advanced after I wrote you laſt, are now lower than at that period. The wheats preſented are very various, chiefly of middling quality; fine white ſamples have brought readily ſeveral ſhillings advance. The barleys of laſt crop are of excellent quality, and the malt made from them uncommonly fine.

'The ſeaſon has been very mild; excepting a week about the middle of December, we have had no froſt to prevent the plough being regularly worked. Since that time, we have had much blowing weather, with almoſt continued rain, which has flooded ſome of the low diſtricts.

'There have been few freſh arrivals for two market days paſt. Prices continue nearly the ſame.

'State of London Markets, Jan. 23. 1804.

Wheat, -	46s. to 50s.	*Good* Red Clover,	84s. to 90s. p. cwt.
Good mealing do.	52s.—54s.	Do. White do.	90s.—112s.
Fine white do.	57s.—58s.	Do. Trefoil,	48s.—56s.
Barley, -	23s.—25s.	Do. Rib Graſs,	56s.—60s.
Feed oats, -	18s.—21s.	Do. Cow Graſs,	90s.—110s.
Short ſmall do.	23s.	Burnet Seed,	1s. 3d. per lib.
Poland do.	23s.—25s.	Rye Graſs,	5s. 6d.—6s. 6d. p. buſh.
Rye, -	30s.—31s.	White Rd. Turnip,	26s.—28s. do.
Hog Peas,	35s.—38s.	Green do.	32s. do.
New Tick Beans,	29s.—31s. *ſoft.*	Red do.	40s. do.
Old do. -	33s.—35s.	Swediſh do.	1s. per lib.
New Small Beans,	33s.—35s.		
Old do. -	39s.	Hay,	4l. 10s. to 5l. per load.
Boiling Peas,	42s.—46s.	Straw,	30s.—32s. per load.
Malt, 52s.—Fine new do. 57s.			
All per Quarter of 8 Buſhels.		Spring Tares,	8s. to 8s. 6d. p. buſh.

'Smithfield market continues tolerably well ſupplied, and little alteration of price has taken place. Cattle are from 4s. 4d. to 5s. 6d.; Sheep, from 4s. 6d. to 5s. 3d.; Veal, 6s. to 7s. 6d.; Pork, 4s. to 5s. per ſtone of 8 lib.'

IRELAND.

Letter from a Gentleman at Dublin, December 10. 1803.

'An increaſed zeal for the amendment of live ſtock—cultivation of green crops—drilling grain, &c. particularly by Cook's machine with ſingular ſucceſs—practice of irrigation—form an happy emblem of the advancement of improved huſbandry.

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'The propoſed plan for the manufactory of improved implements of huſbandry is an eſtabliſhment anxiouſly looked for, as thereby good implements may be obtained at reaſonable prices. This eſtabliſhment, which is about to take place immediately, reflects highly to the honour of the propoſer, clearly pointing out the wiſdom of the meaſure, which has in view the educating, as apprentices, young lads, to be diſperſed, when proficients, into the different counties of Ireland, in order to train others; ſo that a thorough knowledge of the conſtruction of good implements may be general—an object long wiſhed for.

'Land-ſtewards, cartwrights, ſmiths, ploughmen, particularly from the Lothians, Berwick, and other well cultivated diſtricts, when well recommended, may be certain of being encouraged, as by good conduct they muſt prove great acquiſitions.

'The ſummer was diſtinguiſhed for unuſual drought. The hay crop, though not heavy, was well ſaved, and will prove, as to quality, more nutritious than thoſe of former years. Hay, therefore, will on an average furniſh as much forage as uſual.

'Potatoes in dry or ſound ground have been deficient a fourth or fifth of the uſual average; but, in cold ſoils, or thoſe generally redundant with moiſture, they are much ſuperior to thoſe of former years; inſomuch, that, on an average, they are nearly equal to the uſual produce.

'Turnips have ſuffered greatly from the dryneſs of the ſeaſon, though the rains which fell in November mended them ſomewhat. Spirited farmers have been much diſappointed by an impoſition of bad ſeed of Swediſh turnip. This is particularly to be lamented; as, in the few caſes of genuine ſeed being cultivated, the crops have ſucceeded in the happieſt manner. A good farmer's ſeed ſhop is much wanted.

'All the varieties of the cabbage tribe have ſuffered much for want of timely rain. The crops of wheat, barley, and oats were abundant, and harveſted in excellent order.

'The efforts of a few diſaffected perſons in July cauſed a temporary check to agricultural purſuits; but happily it was of very ſhort continuance. The farmers, obſerving the weakneſs of the attempt, ſoon renewed their attention to rural works. The hopes of ſucceſsful rebellion are abandoned, and the practicability of an effective French invaſion become illuſive. The late trials of the inſurgents have made a deep impreſſion on the numerous population of this country.

'The ſhows of the farming ſociety of Ireland have been peculiarly important, directing the attention of the affluent, the great landholder, and the practical huſbandman, to the improvement of their poſſeſſions.

'In conſequence of the excellence of the ſoil and climate, the comparative lowneſs of rent, and the increaſed length of tenure, an encouragement peculiarly offers for intelligent farmers to ſettle here, particularly from the well cultivated diſtricts in Scotland. Such, with the neceſſary recommendations, may with certainty reckon on being well received, on applying to the Farming Society of Ireland, *No.* 34. *New Sackville Street, Dublin.*'

Liver-

Liverpool Meteorology 1803.

(Continued from p. 497, Vol. IV.)

October 1803.

A little hail and rain.—7th, Fair and windy.—11th, Foggy A. M. —16th, Windy and hail.—18th, Cloudy, misty rain; Fair.—24th, A. M. *ignis fatuus*.—25th, Fair and fun; though great moisture, and no rain. The hygrometer, at two P. M. was 3 in. 6 dec.—30th, Little rain.

Approxim. of the wind to W. Rain, more or less, 16 days.

	In.	Dec.		In.	Dec.
Fall of rain,	0	82	Evaporation of water,	1	55

November.

Misty rain.—2d, Fair, hoar frost.—6th, Much rain.—12th, Fair and fun at intervals.—15th, Snow and rain.—22d, Windy (in London, thunder).—23d, Hail and rain; windy.—28th, Much rain.—30th, Fair and fun.

Approxim. of wind to South. Rain, hail, and snow, more or less, 21 days.

	In.	Dec.		In.	Dec.
Fall of rain,	3	25	Evaporation of water,	1	1

December.

Cloudy, misty, rain, and windy.—5th, Snow: thick fog.—8th, Hail and snow; foggy and rain.—19th, Very windy.—20th, Cloudy. —24th, Much rain.—25th, Sun, windy, and rain, to the end.

Approxim. of wind to the South.

Rain, hail, and snow, more or less, 22 days.

In the whole year - - 156

	In.	Dec.		In.	Dec.
Fall of rain, - -	4	6	Evaporation of water,	1	0

Total Rain that fell at Liverpool in 1803, as measured by G. J. -	25	42	Total Evaporation in 1803 -	23	69

NOTICES

NOTICES TO CORRESPONDENTS.

We are desired to state, that the articles of intelligence from Tweeddale, given in the November Number, and in the Supplement, were not furnished by the gentleman who usually favours us with a report of that district.

A full supply of materials for making up Mr Cockburn's *Memoirs* being now received, an account of that gentleman will, without fail, be given in next Number. In mean time, we beg leave to express our best thanks for the liberal assistance furnished in the formation of this article.

The Observations of Celerius on the Obstacles to Improvement are unavoidably postponed; the press of matter delayed from the Supplement having occasioned an increase of stock in hand which could not be vended in the present Number.

The Letter from London concerning the Predial and Personal Services imposed upon the Tenantry in some places of North Britain shall not be neglected. We have made inquiries, and are sorry to learn, that what is stated by our Correspondent is amply confirmed by the result.

A Buchan Crofter's Queries shall appear in our next.

The *Review* branch has been omitted at this time, in order to make room for Dr Keith's interesting Inquiry concerning the relative abilities of English and Scotish Barley to pay the Malt-Tax.—Existing circumstances called for a speedy insertion of that valuable Paper.

If the Dumbartonshire Farmer chooses to favour the Conductor with his Address, under cover, to the Publishers, some particulars shall be transmitted relative to the matters contained in his Communication.

We shall be happy to receive accounts of the former and present state of Husbandry in the several Counties of Scotland, similar to the one given in this Number from Ayrshire.

A great many Communications have lately come to hand. The writers of them will accept of our grateful acknowledgements, and may depend upon suitable attention being paid to each.

We will thank any of our friends in Cumberland and Westmoreland for a Report of these districts.

A. G.'s *Letter on Threshing Machines* is this moment come to hand.

No. XVIII. will be Published on Monday the 7th May.

Errata in Supplementary Number.

P. 524. fifteen lines from bottom, for *why don't we include turnips as an article of* drill *husbandry*, read, why don't we include turnips as an article of *horse-hoeing* husbandry.

Errata in this Number.

P. 13. fourteen lines from top, for *proving* read *providing*.
P. 20. eleven lines from top, for *principal* read *principle*.

JOHN COCKBURN

of Ormiston Esq.r

Published by Arch.d Constable & Comp.y May 1814.

THE

FARMER'S MAGAZINE:

MONDAY, 7. MAY 1804.

(No. XVIII.)

BRANCH I.

ORIGINAL COMMUNICATIONS.

FOR THE FARMER'S MAGAZINE.

MEMOIRS of JOHN COCKBURN Esq. of ORMISTON (*with a portrait*), *including a Short Sketch of the Various Improvements introduced by him.*

" No father can have more satisfaction in the prosperity of his children, than I have in the welfare of persons situated upon my estate. I hate tyranny in every shape; and shall always show greater pleasure in seeing my tenants making something under me, they can call their own, than in getting a little more money myself, by squeezing a hundred poor families, till their necessities make them my slaves. "

Letter, Mr Cockburn to Alexander Wight, one of his tenants, 18th August 1725.

The state of Scotland, at the beginning of the eighteenth century, was abject and miserable. From the important æra of the Reformation to that time, a period of one hundred and fifty years, the country had been distracted by civil and religious broils, carried on with a keenness and animosity that totally engrossed the minds of the inhabitants, and left no room for a single thought about internal improvement. During the minority of James VI., parties were formed, which resolutely opposed the measures of each other in a hostile manner. Under his son's reign, these broils broke out into open warfare; and different clans, nay even different families, met in the field, and fought with equal zeal and alacrity as they would have done against a foreign foe. The horrid and unrelenting persecution, which succeeded the Re-

 storation,

ſtoration, and continued, with ſome ſhort intervals, till the glorious Revolution, abſolutely interdicted improvements of every kind; and the fatal expedition to Darien in King William's reign, (an expedition undertaken with as much zeal as animated the eaſtern cruſaders) beggared the country, and left it a prey to miſery and woe.

It was at this time, and under ſuch unpropitious circumſtances, that the diſtinguiſhed perſonage, whoſe memoirs we now propoſe to give, entered upon public life. To rouſe the ſpirit of the country, ſunk and exhauſted as it was by civil and religious oppreſſion, required the exertions of a ſteady and perſevering mind. Such was happily poſſeſſed by Mr Cockburn; and if the following paſſage, taken from the works of our celebrated Scotiſh bard, was ever applicable to any individual, it certainly was to the gentleman, whoſe life now occupies our attention.

> 'Oh! is there not ſome patriot, in whoſe power
> That beſt, that godlike luxury is plac'd,
> Of bleſſing thouſands, thouſands yet unborn,
> Thro' late poſterity? Some, large of ſoul!
> To cheer dejected induſtry; to give
> A double harveſt to the pining ſwain,
> And teach the labouring hand the ſweets of toil?
> How, by the fineſt art, the native robe
> To weave; how, white as Hyperborean ſnow,
> To form the lucid lawn?'

The poet might be anſwered, 'Yes, there *were* ſuch!—One who ſeemed to exiſt ſolely for the benefit of others; whoſe higheſt happineſs lay in advancing their welfare; whoſe large ſoul, diſdaining the grovelling maxims of private intereſt, exerted itſelf, on every occaſion, to promote the proſperity of thoſe whom Providence had placed below him.'

But to return from this digreſſion. At the above æra, the tenantry of Scotland, thoſe of a few fertile ſpots excepted, had been nearly ruined by the calamitous ſeaſons which prevailed at the end of the ſeventeenth century. Capital ſtock had thereby been wreſted out of their hands; and the proprietors, generally ſpeaking, were ſtill too proud, perhaps too ignorant, to intereſt themſelves about the amelioration, even of their own domains. The qualities, ſuppoſed to compoſe the character of a feudal chieftain, are badly calculated for promoting internal improvement; and it deſerves attention, that the feudal ſyſtem has been gradually undermined, in direct proportion as improvements have been made in agriculture and manufactures. Such ſentiments ſeem to have influenced Mr Cockburn; for all his words, all his actions, were dictated by a ſpirit to increaſe the proſperity of the middling ranks. This

This being accomplished, feudalage must necessarily be overturned in every nation; and proprietors, like other men, estimated according to their respective merits, without receiving support from the adventitious circumstances under which they are placed. Without insisting farther upon these general topics, we proceed to detail some particulars of Mr Cockburn's life, and the means employed by him to rescue the country from its then abject and miserable state.

John Cockburn Esq. was born about the year 1685, being son of Adam Cockburn of Ormiston, Lord Justice-Clerk of Scotland after the Revolution. Descended from a family who, during the various struggles which Scotland made to shake off the fetters of tyranny, took a decided part in favour of public liberty, Mr Cockburn inherited, with the estate of Ormiston, a large portion of genuine patriotism, and warmly supported the Hanoverian succession as best calculated to promote constitutional freedom. During his father's lifetime, he sat as a member of the last Scotish Parliament, and took an active part in the proceedings which happily terminated in connecting North and South Britain in the strictest bonds of union, without which the British nation could not possibly have arrived at its present pitch of prosperity. Afterwards, he was successively elected to represent the county of Haddington from 1707 to 1741, in the Parliament of Great Britain, and for many years occupied the office of a Lord of the Admiralty, which of course occasioned him to reside much in England, and to become intimately acquainted with the rural practices of that kingdom. Though the low country districts of Scotland are, at this day, equally well cultivated with the generality of South Britain, yet very different was their condition at the period we are now describing. Lord Kaimes, that excellent judge of mankind, declares, in his strong way, that the tenantry were then so benumbed with oppression, that the most able instructor in husbandry would have made nothing of them. Fletcher of Salton, a contemporary of Mr Cockburn's, states their situation as truly deplorable. In fact, many farms remained unoccupied; even tenants rarely accepted of leases, at least they were shy of entering into them for any considerable number of years. Proprietors then sought after tenants with the same assiduity as is now displayed by the tenantry when a farm is in the market.

Before we enter upon the means used by Mr Cockburn to improve his estate, it is proper to describe the nature of the soil thereof, and the circumstances under which it was then placed.

The lands of Ormiston were originally about two thirds of moorish soil, a considerable part of which was covered with a dwarf kind of heath; the rest of this class consisting of a thin clay, abun-

dantly obdurate, and incumbent upon a retentive bottom. The other third part might be characterized as good, healthy land, some of it rich clay, the remainder a mixture of clay and gravel, or what is called a greafy loom; a small quantity of water-fed earth, accumulated from the overflowings of the Tyne, lay on the banks of that river.

To cultivate such land, as composed the far greatest part of the estate, required much knowledge and dexterity, together with a considerable capital stock. At a time, when the art of agriculture was imperfectly understood, and the situation of the tenantry so reduced, it could hardly be expected that substantial improvements would be undertaken by them, unless their minds were previously enlightened, and their condition ameliorated. To the accomplishment of these objects Mr Cockburn's attention was early directed; and, though numberless obstacles encountered him in his progress, yet a degree of success followed, sufficient to encourage and facilitate improvements in many other quarters. Ormiston, in a little time, was flocked to by the amateurs of husbandry; and we have not only traditionary, but even written testimony to prove, that the first dawn of Scotish improvement appeared upon the estate of Mr Cockburn.

A large portion of the Ormiston estate lies on the south side of the river Tyne, and rises gradually from the water towards the hills, terminating at the ridge called *Doddridge-law*, where some vestiges of a Roman or Danish camp still remain. The lands north of Tyne, and round the village of Ormiston, constitute the better half of the property, though they were not first improved. Ten tenants and their cottagers resided in the village, and the whole ground north of Tyne was occupied by these tenants in *rundale*, agreeable to the mode of holding which existed in these barbarous days. Hence prevailed many other unprofitable customs, particularly that of keeping the whole cattle belonging to the tenants in one common drove, tended by one or two men as herds. They were taken out every morning; regularly traversed the fields by the same route, picking up every thing that could be got; and arrived in the evening at the homestead nearly as hungry as when they set out, but considerably more fatigued. What is now mentioned will throw some light upon the agriculture of the estate, at a time when, several of the tenants having failed, though the lands were low-rented, particularly about the village, a new system was adopted; the runfield plan was abolished, and the lands divided into proper sized farms, each having a steading built in a convenient situation. The farms south of Tyne water amounted to four; two of which, though containing the poorest soil, were the first improved.

improved. Enclosing by ditch and hedge, with trees on the bank, was instantly set about; and, that those enclosures were the first attempted in Scotland by a tenant, is supported by all traditionary authority. Such works were then of a novel nature, and could not fail to make lasting impression on the minds of the neighbours.

In 1698, the Lord Justice Clerk granted to Robert Wight, eldest son of Alexander Wight, one of his tenants in Ormiston, a lease of the farm called *Muir house*, now *Murrays*, to endure for 11 years. The name of this farm is descriptive of the soil and the state of the land at the time. It was the first on the estate that was enclosed; and Robert Wight was the first farmer, if tradition speaks truth, who enclosed by ditch and hedge, and planted hedge-row trees in Scotland on his own proper charge. Again, in 1713, Lord Justice Clerk granted to the said Robert Wight a lease for 9 years of the farm adjacent to the Murrays, called the *House of Muir*. Such was the timidity of those days, that few farmers could be prevailed upon to accept of leases of longer endurance than 5 years.

John Cockburn Esq., about this time, may be said to have entered upon his agricultural career. During his father's lifetime, he promoted improvements, and encouraged the tenantry upon the estate both by precept and example. As Robert Wight had shewn an early and uncommon spirit to enter into his views, he, in 1718, four years after his succession, granted a new lease of the Murrays farm to him for 38 years, at a rent of 750 pounds Scotish money; and upon paying 1200 pounds Scotish, in name of fine or grassum, at the expiration of that term, a renewal thereof for other 19 years, and so on from 19 to 19 years in all time coming. The two subscribing witnesses to this deed were Sir John Inglis of Cramond Bart. and John Hepburn Esq. of Humbie; and they were invited on this occasion by Mr Cockburn, in order that, from his example, they might be animated with the like liberal and patriotic principles for encouraging the improvement of agriculture upon their respective properties.

Alexander Wight, eldest son of Robert above named, possessed the House of Muir farm during the 9 years lease, and afterwards held it by tacit relocation till 1725, when, agreeable to the plan for promoting real and substantial improvements, a new lease was granted to him for 38 years and three lives therein named. This tenant having entered heartily into all Mr Cockburn's measures for improving the estate, as will appear from a letter to be afterwards given, with many others now in our possession,

he, as an encouragement to his brethren, got the above leaſe cancelled in 1734, when a new one was granted for 19 years, and renewable for every 19 years, in all time coming, upon payment of a graſſum equal to one year's rent of the premiſes. This was a leading example to all Scotiſh landlords, and held out, to other tenants of the eſtate, the nobleſt encouragement to undertake the amelioration of the lands under their occupation. Both the farms mentioned were naturally of ſuch mean ſoil, that their improvement would have been a hopeleſs taſk under different circumſtances.

Thus we have ſeen, that the foundation of Scotiſh improvements was laid by granting long leaſes. Many people may now think that ſuch a length of leaſe was unneceſſary, and that this diſtinguiſhed perſonage might have accompliſhed the like uſeful purpoſes by beſtowing tenures of a ſhorter duration. If ſuch there are, let them reflect upon the condition of the country, and the actual ſtate of the tenantry at the time, and they muſt acknowledge, that extraordinary examples, and extraordinary encouragement, were neceſſary to ſtimulate a people ſo circumſtanced. We are not to judge of the propriety of the meaſures then employed, by rules adapted to the preſent day, when tenants, in moſt caſes, poſſeſs knowledge and capital ſufficient for the moſt arduous and difficult undertakings. Let it alſo be remembered, that both knowledge and capital were the legitimate children of the ameliorated ſyſtem then introduced. Mr Cockburn laid the firſt ſtone of this ſyſtem; his brethren in different quarters aſſiſted in rearing up the fabric—though perhaps their ſupport was not, in one inſtance, ſo munificent; and the ſucceſs which accompanied it, ſerved to convince almoſt the whole landholders of Scotland, that the ſureſt way of extending improvements, was to give the tenantry an intereſt in their accompliſhment. Hence, the bond of connexion betwixt proprietors and occupiers is formed upon more liberal principles than are adopted in any country with which we are acquainted.

As Mr Cockburn, in conſequence of his official ſituation, neceſſarily reſided much in London, he maintained a regular correſpondence with ſeveral of his tenants, eſpecially with Mr Wight of the Houſe of Muir, who ſeems to have enjoyed his confidence in a particular manner. In the courſe of this correſpondence, he judiciouſly points out excellent rules and hints for the management of all ſoils, and the way in which improvements ought to be executed; ſuch as planting and encloſing, making public roads, ſowing wheat upon fallow, cultivating buck-

wheat, turnips, rye-grass and clover, planting potatoes in the field, and feeding of cattle and sheep: all which were attempted by Mr Wight so early as 1724, 25, and 26. Mr Wight was probably the first tenant who raised turnips in drills, and cultivated them with the plough. He brought the culture of this root to such perfection, that, in 1736, a turnip of his raising, which weighed 34¾ lib., was carried to Edinburgh, and hung up in John's Coffeehouse as a show.

These letters, indeed, breathe the spirit of a father addressing his children, and prove his extreme solicitude, though at a distance, respecting the welfare and prosperity of every person whose lot had fallen upon his estate. In a letter dated 24th February 1735, he expresses himself in the following strong terms: 'My tenants are quite upon a different footing than those of other people; and all of you are interested in the future as well as the present prosperity of the place; which is not the case with people who are only from year to year, and, at the end of the year, or at most at the end of a few years, are not sure of having any more to do with the place or parish. But the advantage of your childrens children, in some measure depends upon your putting a helping hand in advancing improvements; and your children are sure of being the better of what you do, which is not the case with your neighbours.' Numberless extracts of this nature might be offered, all proving, in the amplest manner, the tender zeal which influenced Mr Cockburn to watch over the concerns of those below him with a patriarchal anxiety. But we shall content ourselves, at this time, with presenting one entire letter, which marks his character more accurately than any thing in our power to urge, leaving the remainder as an occasional store, whence our readers may derive the most useful instruction.

'I received yours of the 16th July, the morning I left Bath. The manner in which you write surprised me, for I had heard of nothing but difficulties from others who had written to me about country affairs and improvements. I read it once over before I set out, but, as I travelled along, could not help pulling it out several times to see if I was not mistaken, when I fancied that you found some things answer, even in this extraordinary year, and that you was far from being discouraged, but employed your thoughts in finding out cures and remedies, rather than in starting difficulties. You are the only person about Ormiston, from whom I have heard any thing, since I left you, but of the bad success we have had in every thing that has been tried, and objections and insuperable difficulties to every thing that can be proposed for altering the good old husbandry of our fathers.

Indeed, since I came into the world, I never saw a season which so much favoured those who are glad of excuses for sloth and a lazy dreaming way of going on, without exerting themselves and employing their thoughts and hands in endeavouring to help and improve nature, to the advantage of themselves and families. God Almighty has endued mankind with the valuable faculty of thought, or reason, with a design that they should use it for their own advantage, not that they should lock it up, and jog on, as do the brutes, without considering why or wherefore they go about the common actions of life, further than that they have seen others, as stupid as themselves, do so before them. I am very glad to find you have another way of thinking, and that, when a bad season comes, you make just allowances for it, and, when a reasonable experiment has been tried, and does not succeed to the full of what could be wished, you consider what causes may be for its not succeeding, and what can be done to rectify any omission in the former trial, or what improvement, in reason, can be made in the next, from whence better success can be hoped for; and that you do not entirely reject what reason teaches you to be right in the main, because, from a bad season, some neglect in the management, or for want of some further things being done, it did not, with you, come up to the full of what it has done with others in a good season, and who, from more experience in the practice, have had it do better than it did with you the first time.

'I am not for having you venture too much, rashly, before you have considered well the reasonableness of the experiment, and made trials of it. Allowances must be made for different soils, climates, and other circumstances; and those things being observed, I am still convinced that by thought, activity and industry, our husbandry may be improved vastly, and laborious, industrious people, may find better living in our country than the generality of them have yet found; and none, in whom I am any way concerned, shall want for all the encouragement a master can give to their just and honest endeavours for promoting their own advantage; for no father can have more satisfaction in the prosperity of his children, than I have in the welfare of persons situated upon my estate. I hate tyranny in every shape, and shall always have greater pleasure in seeing my tenants making something under me, which they can call their own, than in getting a little more money myself, by squeezing a hundred poor families, till their necessities make them my slaves. I hope my actions have convinced you all of this, and that I have hitherto studied your advantage equal, at least, to the making the estate

better

better to those who shall come after me, and I am sure much more than any advance of the rent to myself.

'I assure you, I think it very encouraging, that you tell me what you have done makes so good an appearance already, even in this most extraordinary year, that the mouths of the country against new methods are a little stopped. I hope, in a little time, and with the help of a more favourable season, you shall get entirely the better of this difficulty; and it is not a small one, to have the weight of all the tongues of an idle talking country, censuring a young man at his first setting out in the world. Many a just and a good understanding has been talked down, and the honest undertaker sunk by the clamour of the wicked and malicious, joined with that of the ignorant mob.

'For my share, had I not received your letter, I designed to have written little more upon the subject of the tenants improvements, having heard of nothing but bad prices and difficulties, with which, though in my opinion sometimes they appeared easier answered than made, yet I was tired writing to people, to set them right in what I thought they might have found out with as little thought, as is required in the great mystery of two and three making five.

'There is not a doubt but the putting clover seed through a mill is the best way, if the millers will be careful in a thing that is *new*, and that it will bear the expence. The soils you call *duffie*, ought to be quickened with lime, (I believe hot or unslacked lime would do well) sand, hot dungs, or manure of such kinds. From what I have seen and observed, I incline to think that it is best to mix clover either small or great with rye-grass. The yellow hop clover I have observed do mighty well. It gives the grass a thick stool, helps to support the rye-grass, makes the hay fine and very nourishing food, and mends the foggage; so I am not for sowing rye-grass alone, where the land will bear yellow hop clover along with it; and I have this year seen good crops of the two together upon very poor land. Where you are to take only two years of good ground in clover, and turn it to corn again, I am not for mixing rye-grass with it. The small hop clover will make the stubbles very good, the most of winter, for sheep. I have seen very poor land, which had been run out with too many crops of corn, as is too frequent with us, laid down with small hop clover for sheep. I never approve of lands being brought to this pass; no farmer finds advantage, upon the main, by such husbandry; but if he will do wrong, this is the best mends he can make himself, since it yields some food for sheep, which otherwise it would not do; and their feeding upon it mends it a little. Your clover has enabled

enabled your cattle to work more, and yet will make them look better, than when ſtarved and idle. If you feed them in the houſe, you have their dung; if you feed them abroad, you have their dung laid, without more trouble, upon proper ground (for I reckon you feed them where you incline their dung ſhould do you ſervice); and your hogs will feed with them, or juſt after them, upon the refuſe of the clover which falls from the cattle. The more land you dung this year, the more corn and graſs you'll have next year, which will by degrees draw you into more cattle, which helps you ſtill to better crops; ſo if once you begin, it advances in a circle, the one year's product helping the next, and each increaſing the other, till you have more plenty of all; and when the land is brought into good caſe (to the doing of which dung is a great help) too dry or too wet and cold ſeaſons don't do quite ſo much hurt as when the land is very poor.

'You ſay the rye-graſs, ſown three years ago, does not anſwer this year; but I think if it did your cattle ſervice in winter, and that you ate it till the 20th May, you cannot complain. It may poſſibly (if you have hained it all ſummer, as graſs which hath been eaten ſo long ought to have been) be of ſervice to you in the end of the year; and if you have had early and late crops from it, your advantage is not leſs than if it had given you a crop of hay in ſummer. Soot, nor none of the hot dungs, laſt long; they naturally waſte ſoon, and if laid on thick would burn up the ground. Upon damp cold land they ſeldom fail raiſing one good crop, which yields more dung, whether when fed upon the ground or otherwiſe; ſo, they furniſh you with that ingredient for helping you to more good crops; though at firſt they produce but one themſelves, yet in the conſequence they do more.

'There is no doubt but that graſſes ſown with wheat will grow ſtrong by harveſt; but as the wheat ſtraw is of uſe for other things than feeding of cattle, it does not improve the ſtraw of wheat, as it would do the ſtraw that is uſed for food. I am of your opinion, that you may come to make wheat and rye bread as cheap as peas. Good crops of wheat are more frequent than good crops of peas. One acre of land will, if in good condition, for moſt part, yield much more wheat bread than that ſame acre will of peas; the labouring of the wheat is as cheap, if not cheaper, than that of the peas, the ſeaſon making it ſo for the moſt part. There is no compariſon between the two breads for wholeſomeneſs and goodneſs. Here they don't grind nor dreſs the flour ſo fine, when made for common bread for families, as is generally done in Scotland; for

for there they grind and dress all for fine bread; but, I suppose, with some pains, you may get it done to your mind at the mill. The wheat season was so extremely good last year, that there was more of this grain sown all over England, than ever was known; and if they had enjoyed good harvest weather, they would have had a vast crop of it; though all corns, this year, will be thick-skinned and coarse, by what they use to be in a dry year when there is sun and heat. We have had very bad harvest weather these ten days, which will spoil a great deal, and make much unwholesome corn. As the demand lately from abroad has carried off much of the old stock, what is got well in, will give a price, if the great quantity of bad grain which must be quickly brought to market do not keep it down. Most of the farmers, however, will do pretty well upon the whole, having got a good price for the old, which, with the quantity they now have, will make up to them for the spoilt; but if they had got a dry harvest, and so have had wheat firm and hard for exportation, they would have made vastly, and a great sum of money must have come into the country from abroad. When it proves a bad wheat seed time, many keep their wheat land for barley, in hopes of a better season then; but last wheat seed time invited many to sow their land with wheat, which they had designed for barley, by which they saved labour (a thing too seldom reckoned upon with us), and being sure of a favourable season for wheat seed, they did not care to trust to what was an uncertainty, and at a distance. I wish your harvest may prove more favourable than it does to the farmers just now here. If it does, you will not repent having enriched your land enough for carrying wheat.

'Your turnips ought to have been hoed before this; that would have loosened the ground about their roots, and have helped them to swell; would have likewise killed the wild oats, mustard, and other trash, and been of great service to your ground. I wish you had tried to sow them at different times, ten days, or a fortnight's difference, to try which did best. They should be hoed when the leaves are not so big as half a crown, and left at nine or ten inches distance the first hoeing. If, after hoeing, you find them not swell, the land will make good wheat about Michaelmas; for you need wait no longer than that time for their nipeing. I wrote several letters to my brother, and to Brown, about the method of burning of clay. I got information at different times; so no one of my letters can show you all that I wrote. This has been a very unfavourable year for it; but I think the thing seems to carry reason, if an easy method can be found for burning it. You tell me one

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piece of your hedge does not thrive well. I believe the beſt method you can take, is to open the ground about the roots before winter, and ſupply, with new plants, what are gone; then lay a ſtrinkling of lime near to the hedge, but not touching the thorns; and the winter moiſture will carry the lime down through the looſe earth to the roots. I have been told that this does well, though I muſt confeſs I never ſaw it practiſed. You tell me alſo, that you have encloſed a garden. If you have not yet made any thing of it, I ſhall give you my opinion as follows. You may fallow it, or not, as you ſhall ſee cauſe; for you, being upon the ſpot, can judge better, than I at a diſtance, of the propriety or neceſſity of the operation. Firſt trench it all over fifteen or eighteen inches deep, and throw in a little dung at the bottom; then, in dry weather, feed cattle upon it of all kinds as you ſhall find convenient; the hogs may come laſt. If it is a deep clay, as I fancy it is, you may ſprinkle it over with aſhes, ſand, or gravel, to open the ground, which may be done before the cattle are put upon it, or after, as is moſt convenient. After this is done, and that the dung and piſs of the cattle have had ſome little time to ſink into the ground, delve it, and ſow as you have occaſion; and what you do not ſow preſently, ſhould be laid up in ſmall ridges, that the dung and earth may ferment and incorporate together, and that the ſun, air and froſt may get into it, letting it lye ſo till you have occaſion to uſe it. I don't adviſe your planting any fruit-trees except upon the walls, as they will cover and choke up ſo ſmall a piece of ground by the time they come to carry any quantity of fruit; and ſo you will loſe all the undergrowth, which I reckon is what will be moſt uſeful to you. If you plant fruit-trees upon the walls, let the borders be broader between the wall and every walk, than any of the borders are at the houſe of Ormiſton, otherwiſe you can never expect good fruit upon them. You muſt mix theſe borders with aſhes or ſand, to open the clay. This will agree with the trees better than any dung; for dung, and eſpecially freſh dung, does not agree with fruit-trees. Do not plant the trees too deep in the ground, and make the borders decline a little from the walls, that no wet may ſtand about their roots. If you manage your ground right at firſt, I dare ſay you will have all ſorts of roots and herbs for your pot in perfection. A neck of mutton made into broth, with herbs, roots, and ſome ſlices of bread, well-boiled, upon a ſlow fire, till the roots and meat are very tender, is a good diſh, and not expenſive. Inſtead of the bread, you may put in a little barley, and half a handful of meal, to thicken it a little. A pound or two of beef will make it much the better, and give a great deal more

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of it than the mutton alone. In short, you will find roots and herbs in your garden, of advantage in your family many ways. I shall always be ready to answer you any question, or give you the best advice I can: so, write freely, as you think the hearing from me can be of service.——*Tottenham*, 18. *August* 1725.'

From the above it may be presumed, that this celebrated improver met with the like obstacles in his road, as have been felt by others who stepped out of the beaten path; and that it required all his patience and perseverance to surmount the prejudice and obstinacy even of his own tenantry. That those who entered cheerfully into his views, and facilitated the system which he had so much at heart, experienced his favour and approbation, will not excite surprise. The supine state, into which the Scotish tenantry had then fallen, was not to be removed by ordinary means. In fact, they were the prey of sloth, ignorance, and obstinacy, and rivetted in chains not to be easily broken.

Highly pleased, however, with the success of his first attempts, though made upon that part of his estate worst calculated for introducing improved husbandry, and anxious to extend the reformation to all, Mr Cockburn proceeded to grant leases to such of his other tenants as he thought worthy of them; and very generous encouragement was held out, though not to the same extent as in the two first leases. The size of the enclosures, in particular, was contracted, which wasted much land, and increased the expence of making them; (an error probably occasioned by his recent acquaintance with the husbandry of South Britain), the fatal consequences of which practice are now completely ascertained. At this period, two farms, containing the best land about the village, were enclosed with hedge and ditch, rows of trees being planted on the banks, and also on such parts of the lands as were unfit for the plough. In a little time, these fields, after being thus improved, were taken by the villagers at the rent of 22s. per acre, though formerly rented at 10s., and even that badly paid.

Mr Cockburn being anxious to have a malting, brewery, and distillery erected at Ormiston, these works commenced in the year 1726, being undertaken by the above mentioned Alexander Wight, who received the most liberal encouragement from the proprietor in the execution of these undertakings. Pale malt, high-flavoured ale, and excellent whisky were manufactured; all which contributed much to the promoting of agriculture in the neighbourhood.

The improvement of agriculture being now in a progressive state, Mr Cockburn next turned his attention to the introduction of manufactures, knowing well that they were mutual supports

ports to each other. As a preliminary ſtep, he ſet about reforming his village of Ormiſton; made a plan of a neat, airy, regular ſtreet, to be filled up with the houſes of manufacturers and tradeſmen; and granted feus on moderate terms to all his tenants and cottars who chooſed to build houſes. Hence, a village was reared up in a ſhort ſpace of time, which to this day meets with admiration from every one that paſſes.

To promote the manufacture of linen, Mr Cockburn was warmly diſpoſed. He conſidered it as one of the ſtaple trades of Scotland, and as the beſt ſupport of the general intereſt. He viewed it as intimately connected with huſbandry; the land affording an opportunity for producing the raw article to the manufacturers; while they, in return, furniſhed hands for carrying on agricultural works, eſpecially in harveſt, and for the conſumption of its various produce. To attain theſe objects, an eminent undertaker, from Ireland, both in the manufacturing and whitening of linen, was induced to take up his reſidence at Ormiſton; and a favourable leaſe of the bleachfield and ſome lands in the neighbourhood was granted to him. This was the firſt bleachfield in this county—probably the ſecond in Scotland; for, before 1730, fine linens were ſent to Haarlem in Holland to be whitened and dreſſed. A piece of ground, in feu, was given to the undertaker, for building a dwelling and ſuch other houſes as were required to accommodate the manufactory. Influence was alſo exerted with the Honourable Board of Truſtees for Manufactures in Scotland, and pecuniary aid obtained from them in ſupport of the infant manufacture.

As, in theſe days, people at home were unacquainted with the operations of a bleachfield, ſeveral experienced hands were brought from Holland and Ireland to execute the labour of this new undertaking. Such met with liberal encouragement from Mr Cockburn and his tenants. The growth of flax forming an eſſential part of the new eſtabliſhment, Mr Cockburn obtained premiums from the Truſtees to encourage its culture, and an annual ſalary for an eſtabliſhed lint-dreſſer and heckler. A ſchool for teaching young girls to ſpin linen yarn, was alſo erected, under the direction of a qualified ſpinſtreſs, who received a ſuitable ſalary for her trouble in educating them. Hence a conſiderable quantity of linen yarn was ſpun upon the ſpot, which ſupplied the manufactory with materials of the beſt quality.

About the year 1736, the progreſs of agricultural improvements at Ormiſton had excited ſo much notice over all Scotland, that Mr Cockburn, always awake to every circumſtance which could forward his darling object, ſeized upon ſuch a notable opportunity of diſſeminating uſeful knowledge among his brother proprietors

proprietors and their tenantry. He instituted a club or society, composed of noblemen, gentlemen and farmers, who met monthly for the discussion of some appropriate question in rural economics, settled upon at their former meeting, on which question all the members present delivered their opinions;—an institution which subsisted for above ten years, and perhaps was ended by the circumstances under which the country was then placed. The first minute bears date 19th July 1736, and the last 4th May 1747; the whole proceedings being highly interesting to the country, and honourable to the Society who originated them. In short, the fame of this Society spread far and wide, and occasioned many noblemen and others at a distance to solicit admission as members. A list of the members of this meritorious Society, as extracted from the minute-book, shall now be given. Certainly it would be a proud day with the father of Scotish husbandry, when he met with such a number of practical agriculturists, all eagerly disposed to listen to the benevolent instructions which he was so well disposed and qualified to communicate.

List of Original Members of the Ormiston Society, with Copy of their Minute, July 19. 1736.

John Cockburn of Ormiston.
Thomas Anderson of Whiteburgh.
William Jamieson, merchant, Leith.
James Hepburn, younger, of Humbie.
Andrew Broomfield of Duncrahill.
The Honourable Hew Dalrymple of Drumore.
George Torrence, tenant in Peaston.
William Wilson, tenant there.
James Walker, tenant in Pardovan.
James Walker, junior, there.
Alexander Wight, tenant in Ormiston.
Alexander Wight, tenant in Cousland.
John Wight, tenant there.
Alexander Wight, tenant, Eastfield of Ormiston.
Charles St Clair of Hermiston, advocate.
Patrick Cockburn Esq. advocate.

'We, whose names and designations are above set down, taking into our consideration that the erecting and instituting a Society in order to the better improving our country with respect to agriculture and manufactures, would be a laudable undertaking, do, for that purpose, enter and become members of the said Society, and we are to assume and receive such other persons into

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to the said Society as we shall judge proper to be admitted members thereof, according to such rules as we shall hereafter agree upon for that purpose.'

The first meeting of this laudable design was held, 26. July 1736,—Mr Cockburn chairman, when the rules of the Society were framed and agreed to. Thereafter the Society continued to meet regularly; and a question, relative to husbandry or manufactures, was proposed for discussion at next meeting, which was uniformly considered and discussed, as appears from the minutes of the Society; and many new members were proposed and admitted by ballot, a list of whose names are here annexed.

Lord George Hay.
William Congalton, younger, of that ilk.
The Laird of Dundas.
James Campbell of St Germains.
Sir John Inglis of Cramond.
Sir John Dalrymple of Cranston.
Robert Anderson, younger, of Whiteburgh.
John Watson of Muirhouse.
Richard Dundas of Blair.
George Brown, younger, of Coalston.
Sir Robert Dickson of Carberry.
Joseph Douglas of Blackshiels.
Archibald Robertson in Tranent.
John Drummond in Ormiston.
Mr Scott of Rossie.
The Earl of Stair.
Colonel James Gardner of Bankton.
John Nairn at Winton.
John Campbell, Collector of Customs, Prestonpans.
William Douglas, farmer in Blinkbonny.
Richard Chessels, farmer at Carberry.
William Bailie, factor for the Laird of Lamington at Penston.
Sir John Sinclair of Longformacus.
Mr Wauchope of Edmiston.
Mr William Wauchope, brother to the Laird of Niddry.
Archibald Tod, writer in Edinburgh.
James Skirvine, tenant in Ewingstone.
John Christy, linen-draper in Ormiston.
Sir Hew Dalrymple.
John Stiell.
George Cockburn, younger of Ormiston.
Sir Charles Gilmour of Craigmillar.
Sir John Baird.
Sir James Hall

Mr

Mr William Baird.
John Mitchelson of Middleton.
Mr David Baird.
Alexander Arbuthnot of Knox.
Charles Hay of Hopes.
The Laird of M'Leod.
Mr Cockburn of Clerkington.
Mr Justice of Crighton.
George Livingstone, Depute-clerk of Session.
John Rutherford of Bowland.
James Craig of Costarton.
Baillie Smart of Musselburgh.
Lord Lindores.
Andrew Gardner, merchant, Edinburgh.
George Buchan of Cumledge.
Duke of Perth.
Mr Rutherford of Fairnielie.
Dr Rutherford.
John Carfrae, tenant in Park.
Mr George Drummond.
Robert Wight, Easter Hailes.
George Ronaldson, Dodridge
Andrew Wight, Ormiston.
Ninian Jeffrey, Dalkeith.
Lewis Gordon of Gordonhall.
Thomas Gardner, merchant, Edinburgh.
John Dods, overseer of Mr Cockburn's country affairs.
Mr Anderson, younger, of Adniston.
Robert Wight, Muirhouse.
Francis Walker, Mainshill.
Mr Keysar, lintdresser from Flanders.
Archibald Cuthbertson in Adniston.
Mr St Clair in Seton Mains.
James Wilson in Peaston.
Adam Inglis Esq. younger of Cramond.
James Burnet Esq. younger of Monboddo.
Mr White of Crichness.
Mathew Haldane, farmer, Buxley.
Bailie David Wight, farmer, West Byres.
Robert Maxwell of Arkland.
James Cuthbertson, farmer, Langniddry.
Baron Clerk.
Sir William Dalrymple.
Mr Hamilton of Fala.
Mr Howison of Braehead.

Robert Turnbull in Newtonhall.
Robert Pringle Esq.
Thomas White, manager of Sir William Dalrymple's grounds.
Captain Maitland.
100 George Park in Blackhouse.
Mr Buchan of Kello.
William Watson of Pilmore.
Charles Mackie, surgeon, Ormiston.
William Swinton, merchant, North Berwick.
John Baillie in Penstone.
106 James Wight in Ormiston.

Without entering at greater length, in this article, upon the proceedings of the Society, it may be stated, that in the year 1739, premiums for raising flax were advertised in the newspapers, and distributed by the Society to the gainers thereof, in terms of their advertisements. In the same year the Society petitioned the Board of Trustees to get home Riga lintseed, and to appoint a proper person from Holland to settle for some time in this country, to instruct people in the way of watering and grassing lint properly. And in 1742, samples of lint were produced and submitted to the inspection of judges, who declared them equal to any imported from Holland for several years preceding that period.

If men of rank and fortune would thus employ their time and talents in promoting the public good, what inestimable blessings might not society derive from their exertions. We here see how much was accomplished by one individual, whose means were very limited; therefore may judge of the extent of the benefit that would be gained, were all animated with principles equally patriotic and liberal. The like necessity, perhaps, does not exist, at this day, for the execution of measures similar to those undertaken by him for introducing and disseminating improvements; but every proprietor has it in his power to promote the comfort and prosperity of those placed below him. To him alone they are naturally disposed to look up for protection and support. If he treats them with leniency; if he is interested in their welfare, and regards them as men, though placed lower in the scale of life, then a reciprocal return may safely be expected. Proprietors, who act in this way, really and truly preserve the full benefits of the feudal system, though the system itself has been legally abolished and overturned.

Mr Cockburn died in the year 1747; and shortly thereafter the estate of Ormiston was sold to the late Earl of Hopetoun by his son George Cockburn Esq. afterwards comptroller of the navy.

While

While it is painful to ſtate that this property was renounced by a family, who for centuries had deſerved ſo well of their country, it is ſome comfort to reflect, that the purchaſer was alſo of a branch to whom the agriculture of Scotland has been, and continues to be, under great obligations, as might be inſtanced by the caſe of the barony of Byres, where improving leaſes were granted many years ago. But we muſt ſtop, as the article already exceeds our common bounds. In a word, the name of JOHN COCKBURN will not ſoon be forgotten in Eaſt Lothian. His numerous ſucceſsful attempts to promote the proſperity of the country are rivetted in the hearts of its inhabitants, and will be handed down from father to ſon for many ſucceſſive generations. When the whole of his life is conſidered, we are warranted to pronounce him the father of Scotiſh huſbandry, an ornament to his country, and an honour to the county of Eaſt Lothian which gave him birth. N.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the Impolicy of Impoſing Perſonal and Predial Services upon the Tenantry of Scotland.

SIR,

THE attention paid to ſome deſultory hints which I lately tranſmitted, has encouraged me to ſend you a few more. Engaged at preſent in purſuits very different from thoſe that form the chief objects of diſcuſſion in your Magazine, all I can do is, occaſionally to offer a few ſuggeſtions on general ſubjects.

I have been led to the ſubject of the preſent communication, by the correſpondence of your valuable and reſpectable friend Mr Dempſter, in the 14th Number of the Magazine, where he deſcribes the ſervices that are performed by tenants to their landlords in his neighbourhood. Mr Dempſter ſays, although he has diſcontinued the practice himſelf, and recommended the diſcontinuance to his neighbours, for a long period of time, that he has nevertheleſs been a very unſucceſsful apoſtle; as the tenants around him are ſtill obliged to cut down their landlord's crops, while their own is perhaps ſhaking out of the ears with ripeneſs.

Now, as I have always underſtood that the county of Forfar, in which Mr Dempſter lives, was as well cultivated as any in Scotland; as I myſelf remember to have ſeen moſt ſucceſsful, and apparently excellent ſpecimens of highly improved agriculture in that county above twenty years ago; as it was there that Mr Scott of Duninauld gave one of the firſt examples of good farm-

ing ever ſeen in Scotland; and as it was there the late Lord Strathmore exhibited a moſt extenſive plan of improvement, I little expected to find complaints of ſuch a barbarous practice prevailing in that country in the beginning of the 19th century. If ſuch prevails in Forfarſhire, we may reaſonably infer that it prevails, to a much greater extent, in other and leſs improved diſtricts, where the true principles of good farming are more imperfectly underſtood.

Mr Dempſter's character, for zeal, public ſpirit, and comprehenſive obſervation, is ſo well eſtabliſhed, that any remark, falling from him, comes with double weight; and his obſervation, accordingly, ſtruck me moſt forcibly. If the ſtatement be juſt, which there is no reaſon to diſpute, your numerous and intelligent correſpondents may talk in vain about the improved ſtate of agriculture in Scotland. Your publication may be honoured and enriched with the correſpondence of Lord Sommerville, Sir John Sinclair, Mr Dempſter, Sir Archibald Grant, Sir George Mackenzie and many other highly diſtinguiſhed and patriotic characters; Mr Findlater may expatiate on the moral incitements to farming, with a degree of eloquence and ſtrength of reaſoning worthy of Adam Smith; and all this to little purpoſe, ſo long as the tenantry of Scotland are kept in a ſtate of dependence and thraldom ſuited to the moſt rigorous period of the feudal ſyſtem.

I never viewed your Magazine as ſo much calculated to inſtruct the intelligent and independent farmers in diſtricts already well cultivated, as thoſe in more remote diſtricts, where the approved ſyſtems of agriculture were either leſs perfectly underſtood, or not practiſed at all. I conſider the chief deſign of your publication is to expoſe, and if poſſible to eradicate, bad practices, ſanctioned by length of time, and invariable cuſtom, in whatever part of the country they exiſted; and if this view be correct, I am ſure there cannot be a more fertile topic for poignant ridicule, or a more prominent ſubject for acrimonious cenſure, than thoſe barbarous and Gothic ſervices ſtill paid by the tenants in many diſtricts of Scotland, under the name of *Boon-work*.

Such ſervile offices are ſo little known in England, that I do not ſuppoſe their meaning can be properly comprehended there; or, if underſtood, they muſt be held in ſcorn by the more liberal-minded landlords. What idea would the late Duke of Bedford have formed, or what idea muſt Lord Winchelſea, or Lord Egremont, or Mr Coke of Norfolk, and many others of the enlightened farmers in England, form of the ſtate of agriculture in Scotland, when they ſee that the tenants are bound by their leaſes to cut down

down the corns of their landlord, when their own crops may ſtand in the fields, liable to be ſhaken by wind, or rotted by rain? Would not any perſon who had not heard of the fact before, agree with Mr Glover in the character which he gave of the Scots; when, being ſent down to that country about thirty years ago, to inquire into the affairs of the famous Ayr Bank, he ſaid, in his report to the Houſe of Commons, 'that he found the Scots poſſeſt all ſorts of ſenſe but *common ſenſe?*'

What I would therefore beg leave to requeſt is, that ſome of your intelligent and reſpectable correſpondents would ſet the unreaſonableneſs and abſurdity of all thoſe menial ſervices, which I believe are called, in Scotland, *Boon-work*, in their true point of view; and, if poſſible, expoſe and extirpate ſuch baneful and pernicious cuſtoms from the ſyſtem of rural œconomy altogether. The bad effects of theſe need only be mentioned, to be univerſally acknowledged. And were an honourable gentleman, who ſome time ago ſucceeded to a very large eſtate in Forfarſhire, to renew his leaſes, with theſe ſlaviſh conditions annexed to them, it would rivet the cuſtom in that part of the country, for perhaps the next twenty years, and ſet a very bad example to the whole of Scotland.

All ſorts of ſervices performed by the tenant to the landlord are bad; but ſurely thoſe that go under the name of harveſt work, and are claimed at the moſt valuable and perilous ſeaſon of the year, are the worſt. What avails it for a tenant to encloſe his land; to put it in good heart; to labour it after the moſt approved mode, and to be at the expence of good ſeed wherewith to ſow it, when it is perhaps put out of his power to embrace the proper time to reap it? Finally, as all ſuch practices have their origin in ſlavery, and their continuance in ignorance; as they have for their conſtant attendants, poverty and dependence, it is high time that they ſhould be aboliſhed and eradicated; and I cannot conceive that a portion of your valuable Magazine can be applied to a more beneficial purpoſe, than in endeavouring to bring about ſo deſirable an end. I am, &c.

AMICUS SCOTIÆ.

London, 22d December 1803.

NOTE BY THE CONDUCTOR.

We are greatly obliged to *Amicus Scotiæ* for the above communication. The obſervations made are, however, of ſuch a ſerious nature, that we would hardly have felt ourſelves juſtified in

laying them before the public, had not the refult of our inquiries in a great meafure accorded with the ftatement he has given. Before going farther, it is proper to explain, that the picture drawn can apply to few of the cultivated diftricts in Scotland; and it muft excite furprife, that a fingle trait thereof is applicable to Forfarfhire, where undoubtedly a fpirited and fuccefsful hufbandry extenfively prevails.

All fervices impofed upon tenants are lefs or more injurious to them, and, in a proportional degree, unfriendly to the landlord's intereft. Services muft however be diftinguifhed under two heads, 1. Thofe that can be paid by the tenant without fubjecting him to any material inconveniency, fuch as driving coals for his landlord's ufe, and paying *kain* hens. 2. Work performed for the landlord at feed-time and harveft, which neceffarily proves highly pernicious to both parties, becaufe it is exacted at periods when every nerve of the tenant ought to be ftrained in cultivating and fecuring his own crop. Services of the firft defcription may be eafily difcharged: the chief objection we have to them is, that they are generally brought forward after the rent is agreed upon, by way of *addenda*, or becaufe fuch things have, by conftant ufage, been levied upon the tenantry of the eftate. Thofe of the fecond clafs are grofsly unjuft; in fact, they operate againft the landlord himfelf, by preventing the tenant from fowing and reaping the very crop, from the produce of which the agreed rent is to be furnifhed. We prefume it is againft fuch that our correfpondent's arguments are directed; and aflfuredly he could not have erected his battery againft any other fortrefs which really and truly called for a more fpeedy demolition.

We believe that Scotifh proprietors, generally fpeaking, are actuated by principles fimilar to thofe we have noticed; that is, they reftrict fervices to driving a few coals, and paying kain hens; and it is confiftent with our perfonal knowledge, that in numberlefs inftances, even thefe are commuted into a money payment. That it would be better, were every kind of fervice or payment in kind given up, we cheerfully grant; but fo long as fervices are confined to thofe we have mentioned, the evil is not of magnitude. We are none of thofe who are difpofed to limit the power of proprietors in cafes which do not affect the profperity of agriculture; and in this inftance, the burden is fo trifling, as neither to leffen the welfare of individuals, nor impede the progrefs of improvements. None of thefe things, however, can be urged in fupport of the fecond clafs of fervices. We are free to fay, that they are fo impolitical and injudicious as to call for legiflative interference, in the event of being retained by proprietors.

Perhaps

Perhaps ſuch ſervices originated from the poverty of the tenantry in former times, and the ſcarcity of a circulating medium. Be this as it may, they have generally been laid aſide when improvements were introduced; and it is to be hoped that a juſt view of their hurtful conſequences will, in a little time, cauſe them to be totally abandoned. Even ſtatute labour, when exacted in kind, is ſo oppreſſive to the tenantry, that many counties have changed it into a money payment. We ſhould be glad to learn, whether this relief has been granted in England.

We are not afraid, that either proprietors or tenants of Scotland will ſuffer by an appeal to the great characters condeſcended upon by our correſpondent. That the tenantry of Scotland have ſome difficulties to encounter, we allow; that their general ſituation might be ameliorated, we do not diſpute; but that the nature of the connexion betwixt the proprietors and them is formed upon more liberal principles than thoſe acted upon in our ſiſter kingdom, we ſtrenuouſly maintain. Let *Amicus Scotiæ* look to the clauſe in the majority of Engliſh leaſes, wherein the tenant is taken bound to pay all parliamentary and parochial taxes already impoſed *or to be impoſed*. Let him reflect upon the baneful conſequences of the tithe ſyſtem, which cut equally deep upon the intereſt of landlords and tenants. Let him conſider the pernicious effects of the poor-laws, which threaten to eat up property altogether, without materially benefiting the lower ranks. We ſay, let him reflect upon theſe matters, and declare, whether *common ſenſe* is a more plentiful commodity in the one country, than in the other. N.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Thoughts on certain Obſtacles to Improvement.

Sir,

That the adoption of an improved ſyſtem in the management of landed eſtates would greatly increaſe our population and national ſtrength, is a poſition that will ſcarcely be contradicted: it therefore muſt give every true friend to his country much concern, that a different ſyſtem is purſued by ſo many of our landed proprietors; and, with your permiſſion, I now propoſe to offer ſome remarks on this ſubject.

In the courſe of pretty long and attentive obſervation in different parts of the country, it has ſtruck me very forcibly, that the moſt important improvements have been effected, and the great-

eſt produce raiſed, where the occupiers of land are in poſſeſſion of great capital and abilities; and finding this opinion corroborated by men whoſe judgement and experience cannot be doubted, I will lay it down as a *principle*, that the average produce of land is in proportion to the capital and abilities employed in its management, or, in other words, to the labour and manure which, under a ſkilful director, are beſtowed upon it. Now, let us inquire whether our preſent ſyſtems of occupancy, &c. offer as great encouragement to men of capital and abilities, as commerce, manufactures, &c. In theſe employments, capital not only returns a great profit, but enjoys perfect freedom and ſecurity under the ſole direction of its owners, who reap the *undivided* fruits of their ſkill, induſtry and enterprize. That this is not the caſe with the occupiers of land, is a lamentable truth; for in many parts of the iſland they are *generally* tenants at will, and conſequently the landlord's *dependants*. Under ſuch circumſtances, the farmer has not a fair proſpect of enjoyment; for he cannot but be under conſtant apprehenſions of ſuch occurrences as will lead to his removal from his farm, or an advance of rent; and, where there is not a certainty of the tenant's enjoying the fruits of his induſtry and expenditure, it is abſurd to expect ſubſtantial and permanent ameliorations. Beſides, the enlarged mind of a man of capital and ability revolts at the idea of becoming the vaſſal of, or at being put in trammels by any man. Hence, farmers holding under ſo inſecure, and in every reſpect ſo diſagreeable a tenure, are, in almoſt all caſes, deſtitute either of the neceſſary capital or abilities, and generally of both. Leaſes for five to nine years are liable to nearly all the objections which may be urged againſt holding at the will of the landlord. Where buildings, encloſures, drains, &c. are already in a proper ſtate, and where the condition of the land enables the tenant to reap *immediate* profit, leaſes for fifteen or ſixteen years, may without much injury prevail; but where houſes and dikes are to be raiſed, materials carried by the tenant, impoveriſhed lands enriched, and draining and other expenſive management purſued, in order to effect ſubſtantial and permanent improvements *, leaſes for a term of twenty-one to twenty-five years are indiſpenſable. Under ſuch a tenure, granted on ſuitable conditions, more eſpecially if the farm be large, a proper field is poſſeſſed for the diſplay of genius, induſtry, and enterprize, and for affording to the tenant a bright proſpect of enjoyment. Here we diſcover encouragement for the inveſtiture of capital, ſimilar to that preſented in trade and manufactures; conſequently, ſuch a ſyſtem muſt be beneficial to the country.

In

* Such improvements (every man of experience knows) afford but a *ſlow* return.

In ſupport of this ſyſtem, we may appeal to what is more convincing than arguments—*to facts*. Let any impartial man of judgement compare the capital, abilities and produce of thoſe diſtricts which are divided into ſmall farms, or held by tenants at will, or under ſhort leaſes, with thoſe of diſtricts in which large farms and long leaſes prevail, and he will find a vaſt ſuperiority in the latter. Indeed, Sir, nothing is better known, by attentive agriculturiſts, than that all our great improvements in huſbandry have been diſcovered, and, beyond all compariſon, moſt beneficially practiſed, both for the occupiers and the public, in the latter diſtricts. It is in theſe, not only that the greateſt produce is raiſed, but that the greateſt proportion of that produce can be ſpared for the market; which circumſtance alone enables the farmer to afford more rent: And, that the greateſt advance upon farms has taken place, where they are large, and held under the ſecurity of long leaſes, is ſupported by experience in every part of the country. It has, however, been advanced againſt large farms, that they enhance the price of proviſions, and leſſen the number of inhabitants. In Mr Secretary Young's pamphlet on the late ſcarcity, and ſeveral other publications, ſatisfactory refutations of the former doctrine may be found; and when we advert to the large capital employed, the ſuperior management purſued, and the great number of labourers neceſſarily employed on theſe farms, and that on them married ſervants with large families, cows, &c. are preferred, whereas the occupiers of ſmall farms not only do not improve in the ſame degree, but employ unmarried ſervants, we will readily perceive that large farms are favourable to population. I do not, however, contend for the great conſolidation of farms, or aſſert that they may not become too large. What I contend for is, that, at preſent, they are generally much too ſmall, and held under too diſagreeable a tenure, to attract capital and abilities from commerce. Here I beg to ſay, that I entertain no ideas hoſtile to trade and manufactures. Their importance I cheerfully concede. But is it not inferior to that of agriculture? And until the latter receives more attention and encouragement, and till our population is more full, can they be ſaid to reſt on that ſolid and permanent foundation they well deſerve?

If a man concerned in commercial and other employments, chooſes to relinquiſh theſe purſuits and inveſt his capital in agriculture, no legal impediments ſtand in his way;—he may do ſo with perfect facility. But when we conſider that, in almoſt all caſes, leaſes are granted to *executors* and *adminiſtrators*, and contain clauſes againſt ſubſetting, we will ſee that the occupiers of land cannot accompliſh ſuch a change without the conſent of their landlords;

landlords; ſo that if a tenant doubles the value of his farm, by great and expenſive improvements during the firſt ten or twelve years of a 21 years leaſe, and ſhould *then* diſcover the greateſt and moſt ſtriking advantages in relinquiſhing his agricultural, and embracing other purſuits, either he muſt obtain the landlord's permiſſion to ſubſet; ſubmit to the unprofitable management of an overſeer at, perhaps, a great diſtance; ſacrifice his whole property in the leaſe, or aſſign his right therein to the landlord, ere he can engage in the other purſuit. If, inſtead of engaging in more lucrative concerns, we ſuppoſe the demiſe of the tenant to take place at the expiration of the above ten or twelve years, and that his deſcendants or other heirs are all engaged in more profitable and congenial concerns than thoſe of agriculture, either his executor (if he makes a will) or his adminiſtrator (if he dies inteſtate), muſt commence agriculturiſt, obtain the landlord's conſent to alienate, or be ſubject to the diſadvantages already mentioned. In ſuch caſes, the leaſt of two evils is choſen; and if the proprietor of the land perſeveres in refuſing his conſent to ſubſetting, the leaſe is diſpoſed of to him at, generally, about one third or one half of its real value, and, in many caſes, for little or nothing.

Theſe circumſtances operate againſt ameliorations in two ways; firſt, by deterring tenants, in many caſes, from engaging in very ſubſtantial and expenſive improvements, under an idea that they may, *eventually*, become of little or no utility to their heirs, or even to themſelves; and, ſecondly, by preventing the employment of greater capital and abilities, which would, under more favourable regulations, be attracted from trade, and devoted to rural concerns. It can make no difference, of conſequence, to the landlord, whether he receives his rent from the perſon that originally took the farm, or from a tenant to whom it is ſubſet; his right to diſtrain is in both caſes the ſame; the covenants of the leaſe, aided by the intereſt of the tenant, prevent deterioration; and when the aſſignment is made ſoon after the commencement of the leaſe, the new, as well as the original, occupier, will be excited, by intereſt, to improvements.—In ancient times, when tenants were bound to accompany their landlords to the field of battle, (when clauſes againſt ſubſetting originated), a ſtrong and good ſoldier, though but an indifferent cultivator, might be deemed the moſt deſirable tenant; but in modern times, it appears immaterial whether the perſon of the occupier be ſtrong or weak, well made or deformed, provided his capital and abilities are equal to the judicious management of his farm; and it is clear, that when the landlord prevents the introduction of a good farmer—

perhaps

perhaps a more worthy and judicious one than the executor or adminiſtrator of a deceaſed tenant of his *own choofing*, he is actuated by ſome unjuſtifiable motive—perhaps by a wiſh to obtain property to which he has no equitable claim.

Much has been advanced againſt tenants being left at liberty to ſubſet. * In ſome parts of Great Britain, however, (though very few), ſuch liberty is conceded by the landlord at the taking of the farms; and I have not been able to diſcover that any injurious effects have reſulted from it, either to the ſoil, the occupiers, or the proprietors. Indeed, *in ſuch a country*, ſuch liberty will ſeldom or never be acted upon, but on particular occaſions, where the expediency and neceſſity of exerciſing it are obvious. I am ſorry to remark that there is too much reaſon to believe that nothing is more diſagreeable to many of our landholders, than to hear of their tenants acquiring any conſiderable property in the occupation of their farms: their *own intereſts*, however, incontrovertibly require the accumulation of a great agricultural capital. Conſequences of a momentous kind depend on the 'ſchemes of huſbandry.' Let us therefore inveſtigate this part of the ſubject, and the agricultural knowledge of thoſe by whom ſuch ſchemes are drawn up. Till within a few years of the expiry of the term, reſtrictions on the management of able and prudent tenants are unneceſſary; for their ſyſtem, during the other part of the term, is (in order to promote their own intereſt) nearly the ſame as that which land agents of the greateſt judgment and experience would preſcribe. It muſt, however, be admitted, that, near the expiry of the term, either there is a ceſſation of meliorating management, or ſome excitement to deterioration; and that reſtricted management may be uſeful to the landlord and the community. But perhaps their intereſts, and likewiſe thoſe of the occupiers, are better promoted by the landlord's granting a new leaſe, on proper conditions, a few years previous to the expiration of the term. This would ſecure ſome of the advantages which Lord Kaimes had in view, and ſeems well worth the attention of landholders. Seeing, then, that properly preſcribed management is not

* Many contend, that very injurious effects have reſulted from ſubſetting, in Ireland. On the ſtate of that country I cannot venture to ſpeak with much confidence; and therefore beg *your* aſſiſtance. But from all I have heard on the ſubject, I am much inclined to believe that the ſubſetting, in queſtion, ariſes from the neceſſities of moſt of the Iriſh landlords, and the almoſt univerſal poverty of the tenantry (which make the 'middle men' neceſſary). In other words, that theſe unpropitious circumſtances are the *cauſe*, and not the *effect*, of the extenſive ſubſetting which prevails in that part of the kingdom.

not injurious in the caſe of good tenants, and that in ſome caſes it may be mutually advantageous to the landlord and occupier, it does not appear to be ſubject to thoſe objections which have been urged againſt it. It ſhould, however, be drawn up by maſters in the art; embrace the moſt approved modes of management; allow the tenant ſufficient latitude to act under extraordinary and unforeſeen circumſtances, and to adopt ſuch improvements as may from time to time be introduced into the art of huſbandry, &c. But, inſtead of ſuch men being employed, what is the fact? Why, that a great proportion of our land agents are lawyers, totally ignorant of agriculture and rural affairs;—men who poſſeſs none of the requiſite qualifications of ſuch ſtewards, except thoſe of being able to draw the legal parts of a leaſe, (which moſt men of common underſtanding may learn to do in an hour); to receive and remit rents, and proceed againſt the tenants for deviating from the agreements, which theſe gentlemen draw by an old form that virtually interdicts moſt of the valuable improvements in agriculture. The conſequent miſerable occupation of a great part of our lands, cannot but raiſe indignation againſt its authors, whoſe ignorance hath bound up the energies of the farmer, and condemned our ſoils to comparative ſterility. Beſides lawyers, there are, in many parts of the country, land-ſtewards, totally unfit to determine the moſt advantageous modes of management, and in almoſt every reſpect unqualified for ſuch important employment, unleſs it be deemed a part of their duty to tyrannize, like a Turkiſh baſhaw, over all the people upon the lands to which their authority extends.

It may be neceſſary to prevent the manure from being taken off the premiſes; to bind the tenant to the application of lime, or other calcareous ſubſtance; to have at leaſt a certain proportion of the land in graſs (properly laid down with a ſufficient quantity of good ſeeds) near the expiry of the term; to leave a certain proportion of the tillage land for fallow, or a fallow crop, for the next tenant; to allow the latter to ſow graſs ſeeds among a part of the way-going tenant's crop of corn, and plough the land intended for fallow; not to uſe any of the dung raiſed from the crop immediately preceding the expiration of the term (provided the way-going tenant reaped a ſimilar advantage at the commencement of his leaſe); not to convert certain very productive grazing paſtures into tillage, without a licence, &c. &c.; —but to bind the tenant to keep land in tillage which has been in a ſtate of conſtant aration for 50 to 100 years, (or at leaſt to prevent his ploughing it after being ſown with artificial graſs ſeeds); and to continue any but very productive grazing paſtures in old graſs,—is highly injurious to the occupier, the public, and

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the landlord. Yet, alas! this is the very ſyſtem which is purſued in many parts of the country. Every man of experience well knows, that the ſupplies of human food, which can be raiſed under it, are comparatively ſcanty; and that, under a proper rotation of crops (permitting artificial graſſes to be a part of them) lands impoveriſhed by long aration, become, in no great ſpace of time, very fruitful.

Akin to the ſyſtem I have juſt mentioned, is that which not only virtually compels the diſpirited farmer to continue his exhauſted land in tillage, but to lime it every third year. Although many practical and ſcientific agriculturiſts differ in opinion as to the *modus operandi* of lime, yet all men of judgment and experience agree in ſtating that its good effects are moſt diſcernible in freſh lands impregnated with vegetable matter, and which have never, or for a conſiderable time, been limed; that its application, every third year, without dung (a ſcarce article under ſuch management), to land which has been long in tillage, and frequently limed, is of no utility, and, in ſome caſes, hurtful. The condition of large tracts of moor, and waſte lands capable of much improvement, I ſhall not place entirely to the account of landlords and land-agents, tithes being, in my opinion, the principal cauſe of their being continued in their preſent unproductive and diſgraceful ſtate; but for the miſchievous effects of this tax, and the beſt plan of accommodation which has yet been offered to the public, I refer to the able letter in your Number for February laſt, ſigned 'A Friend to Improvements.' The ſtate of commons; the cuſtom of allowing large quantities of hay and ſtraw to be conſumed, or rather moſtly waſted, by cattle, in the fields, inſtead of being properly uſed in houſes and fold-yards for raiſing as much manure as poſſible, and many other inſtances of injudicious management, may be adduced. Truſting, however, I have already ſaid enough to ſhow that, in many parts of the country, the management of landed eſtates is very defective, and that the encouragement for the inveſtiture of capital in agriculture, is far from being ſo great as that which is held out in other employments, I ſhall not at preſent enumerate them. Let it ſuffice to ſay, that if the whole were particulariſed, they would, in all probability, induce many impartial agriculturiſts to conclude, that huſbandry is an employment which it is deemed good policy to repreſs. The *loud* acknowledgments of its importance, which were made by *ſome* of our landholders during the late alarming ſcarcity of corn, and their promiſed ſupport of agriculture, I am apprehenſive (when I conſider the diſcordancy between profeſſion and practice) we can place but little reliance upon. Indeed, Sir, a cynic would inſiſt either on a total want of ſincerity, or that the agriculture of Pruſſia was alluded to.

Yet,

Yet, under all the diſadvantages of defective management, (which is ſtill greater in Ireland), our two iſlands employ and ſupport about ſixteen millions of people. It is therefore reaſonable to conclude, that if our management, *throughout*, was equal to that of ſome of the beſt cultivated diſtricts, Great Britain and Ireland could ſupport a population of between twenty-two and twenty-four millions. This idea is greatly corroborated, if not confirmed, when we calculate on the quantity of our good, bad, and indifferent land, the produce of each kind under proper management, the conſumption of each inhabitant, and that of the neceſſary number of labouring and other horſes, &c. Such an increaſe of population would *virtually* be equal (and without the diſadvantages of a more extenſive frontier) to what our neighbours have gained by other means—*a great increaſe of territory*. The vaſt importance of meaſures calculated to produce ſo propitious an effect, is exceedingly obvious; but, recollecting the title of your publication, I ſhall not inquire whether they are more ſo *now*, than at any former period of our hiſtory.

What remedies ſhould be applied to evils which prevent a rapid increaſe of our population and proſperity, ſhould become ſubjects of diſcuſſion among our legiſlators and ſtateſmen; and, fortunately, many landholders, and ſome of our leading ſenators, have embraced the practice of huſbandry on a large ſcale. The acceſſion of Mr Pitt's abilities to the great cauſe of agriculture, was announced in one of your Numbers; and I am informed by a correſpondent in Northumberland, that another diſtinguiſhed ſenator (Mr Grey) devotes a conſiderable portion of his time to the management of about one thouſand acres of excellent land around his ſeat, at Howick, in that county. Such conduct does them much honour. The forces of ancient Rome conquered the world. The Romans, however, were not more diſtinguiſhed in arms than in agriculture; and ſeveral of her great generals and ſenators participated in the practice of huſbandry, and actually put their hand to the plough. The abilities of Mr Pitt and Mr Grey have been much tried in the cauſe of reform: May their agricultural purſuits unfold to them the great neceſſity of, and their patriotiſm prompt them to endeavour to effect, another kind of reform—*a reform in the tithe ſyſtem, and* (as far as legiſlative regulations can be applied) *the management of landed eſtates!* Some contend, that legiſlative interference would be inconſiſtent with the rights of proprietors, and dangerous. To interference, however, of a ſimilar nature, we owe many great and important advantages. Undoubtedly, private property ſhould be touched with a delicate hand; but when the lands of a country are not occupied and cultivated in ſuch a manner

manner as to secure her power and independence, and the happiness of her people, I contend that legislative interference is highly necessary: And that such additional legal regulations (relative to our tithes and lands) might be devised, as would be highly advantageous to the kingdom, and profitable to the proprietors, appears as capable of demonstration, as any proposition in Euclid. Feeling, however, that I have already encroached too much on your time, I shall not at present enlarge on these matters. Warmly recommending the subject of this letter to our leading senators and landholders, I beg leave to say that, in trusting *solely* to the silent, and I may add, *slow* operations of self-interest, I apprehend much danger. I therefore remain, &c.

CELERIUS.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Thoughts on the Injudicious Methods reported to in Setting Land.

SIR,

HAVING long been of opinion, that the institution of the Board of Agriculture was calculated to do infinite service in promoting the public good, I was lately confirmed in it, on reading Dr Thomson's Agricultural Survey of Fife. From the numerous facts brought under the review of the public, in ch. 5. § 6. tit. *Leases*, and the many absurdities there noticed and commented upon, both with regard to letting farms, and the conditions inserted in leases, I concluded that no proprietor, or manager of any estate, could, without the danger of being marked as a person entirely unqualified through ignorance, venture, after reading this chapter on the management of estates, to persist in practising the same absurdities there so justly exposed to merited contempt.

But how much was I disappointed, upon reading in the Edinburgh Advertiser, of the 1st current, '*Farms in Fife to let, and enter to at Martinmas* 1804!' After describing the farms on two considerable estates, offerers for those on the one estate are, with a share of good sense, desired to give in their proposals on or before the 25th January current; but offerers for the farms on the other are informed, that they may continue to give in proposals *till June next*, or within a few months of the term of entry. The proprietor cannot be a residing one, or he would have known his own interest better than to be guilty of such an absurdity. The managers cannot be such as the Doctor describes; otherwise it must have occurred

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to them, that if these farms are not let till June, the sitting tenant, even if continued, can sow no grass seeds, no turnip, no fallow, provide no lime or other manure, without committing an act of folly against his own interest. Thus, without the smallest advantage to the proprietor, but, contrariwise, with the greatest injustice to his ground, the farmer, if continued, is to be injured more than 20s. for each acre he possesses, by the want of hay and turnip the first winter; of green clover the next summer, and by a total disarrangement of the œconomy of the farm. If a new tenant is preferred, in what situation is he to sit down? He cannot, in June, apply to the outgoing tenant to allow grass seeds to be sown and harrowed in with his crop; he can have no ground for turnip or fallow, the season for preparing both being over. The consequence to the proprietor will be, that either the tacksman must have a very moderate share of understanding; or his offer in rent must be considerably less than he would have made it, if not subjected to the disadvantages above noticed.

Your Magazine being generally read, I hope these strictures may meet the eye of both proprietors and managers, and be improved in such a way, that, in time to come, not one solitary instance of the like nature will be met with in a newspaper. In fact, the advertisements I allude to, contain such a display of ignorance of the true interest of proprietor and tenant; of agricultural knowledge; of public good, and of the management of an estate, as to merit the severest reprehension. Indeed, the manager, whoever he is, may be ashamed to show his face, after committing himself so egregiously. Not even the order of the proprietor can screen him; for if he had the skill to know, and honesty to point out the true interest of the concerned, no such order could possibly have been given.

Ultima Thule, 23. *Jan.* 1804. A SPECTATOR.

NOTE BY THE CONDUCTOR.

THE mode of letting land, reprehended by our northern correspondent, is so inconsistent with public and individual interest, that we cannot pass the subject, without offering a few remarks on its mischievous tendency. Indeed, where Whitsunday is the term of entry, land ought to be set fifteen months preceding that time, otherwise the tenant necessarily enters with less or more disadvantage. If at Martinmas, the set ought at least to be nine months before that term, so as grass seeds may be got sown in due season. The great object is, to place the new tenant

nant in such a situation as will enable him to pay as much rent as possible at the outset. If this is neglected, he must either employ his capital stock in an improper way, or get into arrears, which he may find it difficult afterwards to liquidate.

A sense of the inconvenience under which incoming tenants labour, has induced many landlords to attempt compelling outgoing tenants to leave grass for their successors; but the attempt, though successful in some instances, has generally failed. Indeed, such a measure is unjust, unless the old tenant had the like advantage at his entry. It would be better, were landlords to insert a clause in every lease, binding the outgoing tenant to leave a certain extent of land in grass properly sown down, and also for fallow; the same to be paid for according to the valuation of neutral people mutually appointed.

Were such a clause inserted in all leases, a tenant would, in general cases, enter with much greater ease and advantage to himself, than he can do at present. Still this presumes that the set must be made several months before the date of entry; otherwise, how are servants and farm stock to be timeously provided? We join our correspondent in thinking, that the interest of the landlord must be injured by delaying the business to the last moment. Injurious to the tenant it certainly is; and every circumstance, prejudicial to him, eventually affects the landlord in one way or other. N.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Thoughts on the Application of Dung.

Sir,

In your last Number, p. 38. *et seq.* I offered a few desultory reflections on the accumulation and preparation of farm-yard manure. It is now my intention to discharge the promise then made, by stating some thoughts on the best way of applying that article, being convinced that much improvement has of late been introduced in this important branch of rural practice; particularly in those districts generally considered to be under the most approved management. According to the plan formerly suggested, I shall take up the subject in two points of view, viz. as connected with light and clay soils; or more particularly, as relative to soils on which turnips constitute the first or leading crop, and those where naked summer-fallow is the preparatory step of the subsequent rotation.

Some previous remarks, connected with the right management of dung in all ſoils, and in every ſituation, are however neceſſary, ſo as repetition may be afterwards avoided: theſe are, that no greater quantity ought to be given at one time, than is ſufficient to fructify the ground; in other words, to render it capable of producing good crops, before the time arrives when a freſh doſe will be adminiſtered. In a rotation of *four*, one dunging is ſuppoſed to be neceſſary, it being underſtood that two culmiferous crops are only taken; but in rotations of *ſixes* and *eights*, the common ones followed by good farmers, on heavy or wet ſoils, two dungings are neceſſary; otherwiſe, the crops raiſed will prove proportionally defective, before the expiration of the courſes. It is evident that, under the common reſources of arable land, ſuch repetitions are impracticable, unleſs the utmoſt frugality is ſtudied in the diſtribution; but where this is neglected, a regular ſyſtem can ſeldom be adhered to. The error of former times conſiſted in giving too great a quantity at once, thereby depriving the ground of its regular nouriſhment; in other words, the ſoil rioted in the midſt of plenty for two or three years, and faſted and ſtarved for ſeveral ſucceeding ones. Hence, the generality of fields were either too rich, or too poor; either ſaturated with the juice of manure, or completely barren from the want of it; whereas, had ſupplies been furniſhed in an œconomical manner; had the quantity of manure in hand been diſtributed with judgement, a more uniform produce would have been the conſequence. The new ſyſtem of applying manure, corrects all theſe errors, in ſo far as local circumſtances will permit. Accordingly, a ſmall quantity is now beſtowed at once, and the doſe frequently repeated. The ground is regularly fed; but never ſurfeited with a profuſion of victuals. Hence, the crops conſtituting a regular rotation are more uniformly good, and a greater proportion of the valuable grains are raiſed, than could be accompliſhed in former times.

Though land can rarely be rendered too rich for carrying green crops, yet it is well known, that the ſame obſervation will not hold good, when applied to wheat, barley, and oats; but that ſuch may be, and often have been, materially injured, in conſequence of heavy manuring. Look at the ſite of a dunghill, and you will rarely find that a crop of good grain is produced upon it. You have a great flush of ſtraw, often of bad quality, and a ſmall quantity of inferior grain, little better than if the labours of nature had ended in an abortion. The like conſequences, though certainly in a leſs degree, generally took place with the firſt crops of former times, after ſummer-fallow and dung, eſpecially if the weather proved wet when the grain

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was filling; and to avoid such evils, many farmers, at this day, in the neighbourhood of great towns, decline laying manure upon their fallows, knowing that the vegetable food contained in these lands, if reinforced with an additional supply, would, in nine cases out of ten, prove destructive to the ensuing wheat crop. It is also often observed, that where a heavy coat of dung has been given to a well wrought fallow, such a degree of fermentation takes place in the succeeding spring, as altogether to free the roots of young wheat from their natural hold; thereby occasioning them to starve for want of nourishment, though surrounded with abundance of food.

But, passing over these evils, and even under the supposition that they never existed, still the practice of administering manure in an economical manner may be supported by arguments of a different nature. If a quantity is bestowed sufficient to impregnate the ground, all above that quantity deserves to be considered as profusely thrown away; at least the benefit thereof is in a great measure sacrificed. Manure, upon many soils, is soon deprived of its enriching powers; upon all, its strength is dissipated and carried off by heat, wind, and rain; therefore, the oftener it is repeated, the greater will be the benefit derived from the application. Mistake me not here. I am not arguing under the supposition that the farmer has it in his power to dung land at his pleasure, as may be the case in the vicinity of great towns. No; my arguments merely relate to the situation of the ordinary farmer, who must act upon his own supplies; who possesses but a limited portion of manure, and whose care should be directed to manage that portion in such a way as to derive the greatest possible advantage therefrom. To make my meaning clear—If one hundred carts of dung, each containing one ton, or thereby, are laid upon four acres of land, and the same quantity, and of similar quality, is laid upon eight acres, I maintain that a very considerable advantage will be derived in the latter way, more than in the former; independent of the stress that might be laid upon the circumstance of keeping a great part of every farm in a penurious, consequently in an unproductive state, when a profuse system is practised.

Another general remark occurs; that is, concerning the utility of spreading dung with accuracy, in other words, dividing it into the minutest particles, thereby giving every part of the ground an equal supply of food. This practice was miserably neglected in former times, and is still less attended to than its importance deserves. In fact, I know of few operations which call more loudly for the attention of the farmer, and none in which a more general improvement has taken place. The superficial

perficial and ſlovenly way in which dung was formerly ſpread, muſt be freſh in the memories of moſt people. In many inſtances, I have ſeen the big heap only broken down, as it were, into a number of ſmall ones; and as for tearing or ſhaking the dung aſunder, ſuch an idea then rarely entered into the head of any man; though it is plain that, without making a complete ſeparation, the article could neither be ſufficiently covered in, nor its virtues be conveyed to the ſoil. Perhaps the increaſed attention now beſtowed, in all the cultivated diſtricts, to the ſpreading of dung, originated from the meaſure of limiting the quantity applied. When forty, fifty, nay even ſixty double loads were applied to an acre, it was not very difficult to cover its ſurface, even with an imperfect ſeparation, though it certainly was impracticable to bury the big lumps with a furrow of ordinary ſize; but when the quantity was brought down to eighteen and twenty loads, and, more ſo, when twelve and fourteen loads were thought ſufficient, a different conduct became abſolutely neceſſary. Another improvement alſo followed, viz. ſpreading dung when raw or green, that is, immediately after the carts, in which way, at leaſt during ſummer, it will be ſeparated at one half of the expence, and to much better purpoſe, than when it is ſuffered to lye in the heap for a day or two. In ſhort, it is a ſure mark of a ſlovenly farmer, to ſee dung remain unſpread in the field, unleſs it be in the winter months, when it may happen that hands cannot be got for carrying on ſuch operations with the uſual regularity. At that time the injury ſuſtained, by loſing a few days, is not great, though, as a general rule, it will be found that the expence is always ſmalleſt when the carts are regularly followed up.

Having made theſe preliminary remarks, as connected with the application of dung, in all ſoils and ſituations, I proceed to ſay a few words on the ſubjects mentioned in the introductory paragraph.

When turnip huſbandry forms the chief branch of fallow proceſs, dung, as obſerved in my former letter, is naturally of a ſuperior quality, and requires little artificial management for bringing it to a proper ſtate of preparation. In the greateſt part of Scotland, and even in England, where the drill and horſe-hoeing ſyſtem is practiſed, the common, and undoubtedly the moſt approved way of applying dung to turnips, is by laying it in the intervals of the drills or ſmall ridges, which are previouſly made up by a *bout*, or two furrows of the plough. Theſe drills or ridges are formed at a diſtance of from twenty-four to thirty inches from the centre of each; and by driving the horſes and cart along the middle one of the ſpace intended to be manured, the dung is drawn out either by the carter, or

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by another man ſpecially appointed for that purpoſe, in ſuch proportions, as the poverty of the ſoil, or the diſpoſition of the occupier, may judge to be neceſſary. If the breadth of three drills are only taken at a time, the dung ſtands a better chance of being regularly adminiſtered; for it often happens, that when a greater number are included in one ſpace, the two outſide drills receive a leſs quantity than the intervening ones. Thoſe, therefore, who limit themſelves to three drills, generally divide the ſpreaders, as it requires ſix hands, women or boys, to follow up what is uſually called *a head of carts*, the number of carts to the head being regulated by the diſtance of the dunghill, or the kind of road over which it is to be carried. Others, again, thinking that by manuring only three drills at one time, the travel of the horſes is greatly increaſed, and time waſted when it is particularly precious, take five drills into one ſpace, and, by putting the ſtrongeſt hands to the two outſide drills, making theſe go in front, thereby getting the firſt of each heap, and placing an able confidential ſervant to aſſiſt and ſuperintend the whole, conſider that the work is equally well performed, while a greater quantity is put through hands in a given time. Both plans have their votaries, though I am inclined to think that the difference betwixt them is immaterial. The main objects are, to provide a proper bed for the dung, which is eaſily done by holding a deep furrow when the drills are firſt made up; and to ſhake it well aſunder, or divide it into the ſmalleſt parts, ſo as an inſtant and complete operation thereof may take place. To accompliſh this in the moſt perfect manner, I have even ſeen hand work reſorted to; but the common cuſtom is to do it with ſmall light *grapes* or forks; and it is wonderful to ſee how adroitly the ſpreading is performed by ſmall boys and girls, after they are a little time accuſtomed to the taſk.

The quantity of dung uſually given for turnips is from twelve to fifteen double cart loads, of one and a half cubic yards each, to a Scots acre. In ſome caſes, only ten loads are given; but the land ought to be in high condition where ſuch a ſmall quantity is beſtowed. In fact, no ſoil can be made too rich for turnips or other green crops, peas excepted; but the object to be attended to, in this, and every other caſe, is an allotment of the manure collected upon the premiſes, in ſuch a way as that the greateſt poſſible return over the whole farm, not from a particular field, may be gained by the occupier. The old clerical maxim of 'preaching according to the ſtipend,' may in this matter be acted upon with advantage by every farmer.

As to the mode of applying dung to potatoes, a few particulars may be ſtated. The culture of this eſculent is in ſeveral

reſpects ſimilar to that of turnips, but in others it differs materially. Potatoes are planted earlier in the ſeaſon than turnips; the ground rarely receives ſo much work; the ſoils upon which they are cultivated are more variable; and the dung conſidered to be moſt ſuitable for promoting their growth, does not require ſuch high preparation. Many farmers, notwithſtanding theſe circumſtances, follow out the ſame proceſs as deſcribed under the head of turnips. After the ground receives three, or at moſt, four ploughings, the drills are made up, dung depoſited in the intervals, the ſeed planted above the dung, and the drills reverſed; after which, ſay at the diſtance of two or three weeks, a ſlight harrowing is given. Several objections occur to this mode; ſuch as, that the ſeed is generally kept too near the ſurface, which in dry ſeaſons proves unfavourable to the crop; the dung, unleſs it be very ſhort, is apt to be drawn up by the harrows, and the ſeed removed from its original birth. Theſe things induce other farmers (and probably they are right) to adopt a different ſyſtem: They avoid making up drills, but dung the ground in what may be called the broad-caſt way; and, entering the plough, plant the ſeed in every third furrow, into which only the dung is raked, and ſo on till the whole is finiſhed. Before the young plants appear, or even after they are above the ſurface, a hearty harrowing is given, which is conſidered as equal to a hand-hoeing; and from the dung being completely covered, ſcarce any of it is dragged up, while the ſeed, being undermoſt, none of it is diſturbed by the operation. Both modes have their advantages and diſadvantages. The firſt is carried on with leſs trouble, and more regularity; the laſt, perhaps, with moſt advantage to the crop, eſpecially on heavy ſoils—the ſeed furrow looſening the ground more effectually than can be given by the forming of drills. Several farmers do not dung their potato fields; but, reſerving the manure till the crop is removed, find the remainder of the rotation greatly benefited. Potatoes ſcourge ſeverely, and, in general caſes, require a larger doſe of dung than turnips; but as the extent of land under this culture is not great in common farming, few people grudge this extra quantity, becauſe, except in a few favoured ſituations, a good crop cannot otherwiſe be reaſonably expected.

I come now to the *ſecond* branch of my ſubject, the manuring of clay ſoils, or thoſe where turnips are not taken as a firſt crop. Such, it is preſumed, include at leaſt three fourths of Great Britain, though recent circumſtances may have leſſened their extent conſiderably.

Upon all ſoils incumbent on a wet or cloſe bottom, whether characteriſed as clay, loam, or moor, it may be laid down as a primary

primary principle, that dung cannot be ſo profitably applied, as while under the proceſs of ſummer fallow. Theoriſts, and half-bred agriculturiſts, may reaſon as they pleaſe againſt a continuation of this ancient practice; they may aſſert, with the utmoſt confidence, that immenſe benefit would be gained by laying it aſide, and reſorting to the drill ſyſtem; but their arguments will have little effect upon people practically acquainted with the management of argillaceous ſoils, who do not take one ſeaſon as a rule, but are guided by the dictates of common ſenſe, acquired, during ſucceſſive years, in the ſchool of experience. Whatever diſpute may have happened on this ſubject, I am ſatisfied that the oppoſite ſide of the queſtion is rarely eſpouſed by actual farmers, I mean, ſuch as have farmed wet lands; and that even thoſe, whoſe practice has in ſome degree ſanctioned a contrary opinion, were influenced to make theſe temporary deviations by motives of expedience, not by general principles. It is ſometimes neceſſary for ſuch to raiſe a few turnips, in order that live ſtock may be enabled to meet a market, or be preſerved at a critical period; others have partially reſorted to this culture, as the means of rotting dung: but, under whatever impreſſions they acted, few or none ever judged that ſuch deviations could be defended upon abſtract principles, though certainly they might be ſupported by expediency and exiſting circumſtances. Inclined to believe that ſuch are the ruling ſentiments of Britiſh agriculturiſts, I ſhall enter upon the important queſtion, How, and in what manner can dung be moſt profitably applied to clay lands, or thoſe, of whatever variety they may be compoſed, as are incumbent upon a cloſe bottom or ſubſoil?

I have already noticed, that when the ground is under the proceſs of ſummer fallow, the beſt and moſt appropriate time for applying manure to clay ſoils will be got. When under this proceſs, the ſoil, comparatively ſpeaking, is reduced into minute particles, which affords an opportunity of conveying the virtues of manure through the veins or pores of all its parts. The ſoil, at that time, is alſo freed from its aboriginal inhabitants—quickens and other root-weeds who claim a preferable right of ſupport; hence the artificial plants, afterwards cultivated, poſſeſs, without a rival, ſuch ſupplies as have been granted, without any deduction whatever. In ſhort, without laying any ſtreſs upon elementary effects during the proceſs, it does not admit of a doubt, that the like quantity of manure beſtowed upon the ground when ſummer-fallowed, will produce a greater return to the occupier, than if it had been applied at any other ſtage of the rotation.

Under theſe ideas, it appears that dung ſhould not be laid up-

on fallows before they are completely cleaned; though, no doubt, in wet ſummers this operation is not eaſily accompliſhed. To make ſure work, the fallows, if poſſible, ſhould be early ſtirred, and no opportunity ſlipt of putting them forward with the utmoſt expedition; for it rarely happens, at leaſt in Scotland, that much good can be done towards the deſtruction of root-weeds after the month of July. Before that time, a judicious farmer will have his fallow dreſſed up, and in a ſuitable ſtate for receiving dung. It ſhould be well harrowed, if the weather is favourable, previous to the dung being laid on; and if rolled, or made ſmooth, the ſpreaders will be enabled to perform their taſk with much more preciſion.

At the proper ſeaſon, every other operation ought to be laid aſide, ſo as dung may be expeditiouſly drove out. To do it in wet weather is attended with pernicious effects; the horſes are oppreſſed, a longer time is required, the land is poached, and in ſome meaſure deprived of all benefit from the previous fallow. Theſe circumſtances will be reflected upon by the attentive farmer; they will ſtimulate him not to loſe a moment when the weather is favourable, and prevent him from forcing on the work, when injury rather than benefit may be expected. After all, ſeaſons are ſometimes ſo perverſe, witneſs 1799, as to render every rule nugatory. Theſe muſt, however, be taken as they come; avoiding at ſuch times to break the land down, acclivating the ridges ſufficiently, and keeping the water-furrows completely clear. By attending to theſe matters, opportunity may be laid hold of, by the active farmer, ſeveral days ſooner than by his ſlovenly neighbour; or, at leaſt, the work will be got executed in a much more perfect way than if they had been neglected.

The quantity of dung uſually applied to fallows in ordinary condition is from fourteen to twenty double loads *per* Scotiſh acre, though I have often reaped good crops where only twelve loads had been given. So much, however, depends upon the condition of the land, upon the quality of dung, and the way in which carts are loaded, that no preciſe meaning can be communicated by ſuch expreſſions. I believe each load may contain one cubic yard and three fourths, and weigh a ton, or thereby. It ought alſo to be noticed, that leſs dung will ſerve ſome lands than others, eſpecially if they have lately been ploughed from graſs; but, at all events, I am ſatisfied, that ſixteen ſuch loads as I have mentioned will anſwer for any ſort of ſoil, unleſs it has been previouſly quite wrought out. Even if it was in this forlorn ſtate, I hold it to be better management to dung upon the ſtubble of the firſt crop, than to give an over-doſe when under ſummer fallow.

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As faid before, I am clear that all dung laid upon fummer-fallow ought to be fpread the moment it is pulled out of the cart. It can at no other time be done fo well, or fo cheap; though, on many farms, fmall ones efpecially, where a full fupply of hands are wanting, this beneficial practice is much neglected. Three fpreaders, boys or girls, with an attentive overfman to follow up, and fupply any omiffions, are fufficient for one head of carts; the number included in a head being regulated by the diftance of the field from the dunghill. Some farmers employ a perfon, on whom they can depend, to draw the dung from the cart, who has judgement to proportion it according to circumftances, and is refponfible for any failure in the execution; but the carter is the perfon ufually employed, though, unlefs a boy is given him to drive, a very regular diftribution can hardly be expected. To infure accuracy in laying down, I have feen fields thrown into a dambroad figure; and, a heap being drawn out into each fquare, you could have afcertained, to a nearnefs, the quantity required for the whole. The great object, after a regular and economical diftribution, is to fhake and part the whole completely; as, by minute attention to this particular, a much greater effect is neceffarily produced.

After the fallows are dunged, the remainder in hand is referved for what may be called the intermediate dunging, generally beftowed either upon clover ftubbles, upon wheat ftubbles previous to taking beans, or upon bean ftubbles before the feed furrow is given for wheat. It is obvious, that the farmer muft often be regulated, in this intermediate dunging, by the weather at the time, though it rarely happens but that dung may be got out upon clover ftubbles at one time of the winter or other. When applied to beans, a beneficial practice, the dung, as faid above, is by fome people laid upon the wheat ftubble, and ploughed down before winter; hence it is in full action in the fpring, when the feed-furrow is given. Others make up drills at feed time, depofiting the dung in the intervals, as for turnips or potatoes; but it feldom occurs, that weather can then be got, at leaft on real bean foils, for executing this management.

It remains only to be ftated, that many arable farms, under the ftricteft economy, are unable to furnifh fupplies for an intermediate dunging, at leaft to its full extent; but perfons fo circumftanced, have it always in their power to overcome this defect, and preferve a regular rotation, by keeping certain fields longer in grafs, which of courfe will yield weightier crops when broke up, and ftand lefs in need of manure during the after rotation. As, for inftance, in a rotation of fix, and it is here that the greateft fhortcoming is felt, grafs feeds to a certain extent,

fay

ſay a half, may be thrown in with the crop of wheat taken after fallow, which is the ſecond year of the rotation; this part may be paſtured for three years, and broke up in the ſixth for oats, which concludes the courſe. Again, in a rotation of eight, graſs ſeeds, in like manner, may be ſown with a part of the fallow wheat, which part can be paſtured for three years, then broke up for oats, ſucceeded by beans and wheat. By ſuch arrangements, made according to circumſtances, it is an eaſy matter to preſerve a regular rotation, and to proportion the corn crops to the quantity of manure collected upon the premiſes.

Thus I have given you my ſentiments on the moſt proper and economical methods of applying farm-yard manure in different ſituations, and under different circumſtances; the ſum and ſubſtance of which is, that feeding the land frequently with dung, not giving too much at once, and ſpreading it with exactneſs, are objects deſerving the attention of every farmer who wiſhes to make the moſt of the premiſes under his occupation.

I am yours &c.

ARATOR.

FOR THE FARMER'S MAGAZINE.

On the Management of Sheep at Cauterets, in the department of the Baſſes Pyrenees *in France, with an account of the Scab or Sheep Pox: Compoſed by M. Tenon from information procured from the Shepherds of the diſtrict, and communicated by him in* 1791 *to the Paris Society of Agriculture.* *

General Circumſtances.

THE climate of Cautarets is conſiderably colder than that of Paris, owing to the elevation of the mountains which compoſe that diſtrict; theſe are covered with ſnow through the whole winter ſeaſon, and part of the ſpring, and there are even ſome ſpots where the ſnow never melts. In the month of July 1762, when the thermometer at Paris indicated a temperature of 92°.7 by Fahrenheit's ſcale, it roſe only to 77° at Cauterets; and, while the graſs

* We are indebted to the kindneſs of Sir John Sinclair Bart. for the preſent appearance of this memoir, which was originally tranſlated from the French, at his requeſt, by one of our correſpondents, who has now obligingly reviſed it for our uſe.

graſs in the neighbourhood of Paris was burnt up and withered, it was quite green and full of ſap at Cauterets.

The ſheep which are paſtured in that diſtrict are bred there; the wedders weigh from 32½ to 53½ pounds each, and the ewes from 27 to 43 pounds. The ewes become pregnant in July, and bring forth one lamb at Chriſtmas; ſcarcely one ewe in fifty has twins, which is lucky, for, when twins happen, they are ſmall, weakly, and difficult to rear.

The flocks are kept in ſheep-cots, or ſtables, built very cloſely for the purpoſe, from the end of November till the May following; and all the reſt of the year they are in the free air of the mountains, day and night. As the management is different at theſe two periods, I ſhall endeavour to relate them ſeparately.

Winter Management.

At the time of ſhutting up the ſheep in the cots, they are very ſubject to a diſeaſe, which ſhall be deſcribed hereafter, occaſioned by the ſudden change from the open air to an air which is too hot and too much confined.

When put into the cots, the ewes which are great with lamb, are kept apart from ſuch as are not pregnant, and from the wedders. The latter have three pounds of hay allowed them each day, divided into three portions; in the morning, at midday, and in the evening. The pregnant ewes, and ſuch as have dropt their lambs, have a ſimilar allowance, with the addition of one or two pounds of aftermath, or ſecond crop hay, which is ſuppoſed to contribute more towards the production of milk than the other. At this time of the year the rams are kept along with the pregnant ewes. The ſhepherds are particularly careful that both the hay and aftermath, which are ſet apart as winter proviſion for the ſheep, ſhould be produced on high grounds which have not been watered, and that it ſhould be cut down when nearly in full flower. It is certainly owing to the full feeding which the ſheep get on the mountains, and becauſe they waſte very little of their juices during the conſtant confinement, that ſo ſmall a quantity of food, as is mentioned above, ſhould ſuffice for their winter maintenance. The ſhepherds ſay that the ſheep thrive better during winter, in the cots, on this dry food, than on their ſummer paſtures, particularly when they eſcape the diſeaſe to which they are incident when firſt ſhut up.

The fodder is diſtributed in cribs, which are placed cloſe to the ground all round the walls of the cots; or, if theſe be very large, one or two ranges of cribs are placed down the middle; the cribs are placed thus low, that, being under the heads of the ſheep, the

the hay and feeds may not fall among the wool of their necks, which would fret the ſheep by cauſing them to ſcratch.

It is obſerved that hay feeds the ſheep faſter than ſucculent graſs, and cauſes them to drink more. In the cold weather they are led twice each day to a running ſtream, where they drink, but very little at a time; if they happen to get at water which is leſs cold, they are apt to drink too much. At all times the ſhepherds carefully avoid haraſſing them with long or haſty journeys, or teazing them with dogs; and, when in the cots, they take care that they be not over crowded; they give them freſh litter frequently; and ſalt daily to the pregnant ewes, and to ſuch as are giving ſuck.

The ſhepherds always milk the ewes after the lambs have ſucked: a hundred ewes give about twenty-four Engliſh pints of milk each day, which is made into cheeſe; this quantity of milk, however, diminiſhes gradually as the ewes come nearer to the time of rutting, which is in July; and, when the milk grows ſcarce, it is mixed with the milk of goats and cows; but they allege that the cheeſe made of this mixture is not ſo good as that which is made from the unmixed ewe milk.

Summer Management.

The ſummer cares of the ſhepherd are different from thoſe above deſcribed. Whenever the ſnow is melted, and the graſs begins to vegetate, the flock is driven to the hills; there the wedders, ewes and lambs feed together on a fine ſhort graſs, which is in ſuch abundance as not to require travelling over much to procure it. Every evening the flock is gathered into a fold, near which ſtands a cottage where the ſhepherd dwells. When the paſture of one diſtrict is exhauſted, the flock is conducted to another, where a ſimilar fold and cottage are ready for the reception of the flock and its guide. * No fodder is diſtributed to the flock in the nights of ſummer, while in the fold, the only care being to watch againſt the depredations of the wolf and the bear; for which purpoſe a large dog conſtantly prowls round the enclоſure. This animal is taken great care of, on account of his uſefulneſs, and is plentifully fed with bread and milk.

It is cuſtomary to give the flock ſalt every day while it remains on the ſummer paſture; but the quantity given is regulated by certain circumſtances: If the graſs is hard and dry; if the heat of the weather is very great, or if the ſheep ſeem to have loſt their appetite for food, as much ſalt as can be taken up with both

* This cuſtom reſembles the *ſheelings* in the Scotiſh Highlands.

both the hands held open together †, with twice as much bran, is allowed to each hundred ſheep every day; this is given in three portions, in the morning, at mid-day, and in the evening, ſpread on a large ſtone; or, ſometimes, each animal receives its portion out of the ſhepherd's hand. In the month of June, when the graſs is ſucculent and tender, only about a third part of the above quantity is allowed. When at the largeſt allowance, it takes about thirty-eight pounds of ſalt every month for a hundred ſheep.

Miſcellaneous Obſervations.

The mountains near Cauterets produce a much larger quantity of graſs than can be conſumed, during ſummer, by the flocks of that country; and the inhabitants are prevented from increaſing the number of their ſheep, becauſe of the ſcarcity of winter proviſions, which they have not hitherto ſufficient induſtry to increaſe, as far as is neceſſary, and even practicable. Owing to this circumſtance, part of the paſtures are annually let out to Spaniſh ſhepherds, who bring vaſt flocks of ſheep to graze on theſe hills during the ſummer, and drive them off about the end of October, towards the plains of Spain. From the want of fodder, theſe mountaineers are likewiſe obliged annually to ſell off a part of their ſtock, about the end of autumn, keeping only ſuch a number as they think ſufficient for their ſtore of hay and aftermath. At this time they ſell a great number of young ſheep and wedders of five and ſix years old. I am credibly informed that the Spaniards, of the neighbourhood of Sarragoſſa and Barcelona, purchaſe annually from twenty-five to thirty thouſand from this mountainous diſtrict, and the plain of Tarbes. I am likewiſe informed that the ſheep which are intended for this ſale are ſhorn of their fleeces the preceding December, inſtead of waiting till the uſual ſhearing time in July: by this practice the buyer acquires a fleece of ten months growth along with the carcaſe; and thus the Spaniards profit both by the paſtures and fleeces of France. In the year 1762 each beaſt, weighing about fifty-four pounds on an average, ſold for ſix livres, or ſix livres ſix ſols *.

The fleeces are ſhorn in ſummer, about the fifth of July, taking care to chuſe good weather, and beginning early in the morning. About an inch of wool is left to protect the animal againſt rain, ſnow, hail, and cold. All other circumſtances being

† What is called in Scotland a *goupin*.

* About five and ſixpence Sterling.

ing equal, the ram produces moſt wool, the wedder next, and the ewe laſt. It is ſaid that the ſheep produce leſs wool after a wet ſpring, owing to their having ſuffered from the effects of moiſture. I weighed ſeveral fleeces, and found that they differed from each other according to age; thoſe taken from animals of two and a half years old weighed about three pounds and a quarter, while thoſe of four years of age gave fleeces of between four and five pounds weight; theſe weights are to be underſtood as taken while the natural greaſineſs remained in the wool. The wool of the younger animals was finer, more ſilky, more pliable, and contained leſs impurities than that of the older ſheep; both were equally white, and ſimilarly ſmeared at the under end, and both were rediſh towards the points of the wool. The neck wool of the young ſheep was about ſix and a half inches long, and that of the thighs ſeven and a half; the neck wool of the older ſheep was ſeven and a half inches, and that of their thighs only ſix and a half, without taking into conſideration the inch of wool left on the ſkins.

Four or five days after ſhearing, it is cuſtomary to waſh the fleeces in what is called *gave* water, which is a mixture of ſnow water, cold ſpring water, and the water of ſome warm mineral ſprings. In this operation, each fleece loſes ſomewhat leſs than half its original weight. I had the curioſity to waſh two ounces of white wool in the ſpring called Ralliere, which is of the temperature of 99.5 by Fahrenheit's ſcale, and it loſt three quarters of an ounce by the proceſs. It was whitened by the waſhing, but conſiderably leſs ſo than what had been waſhed in the ordinary *gave* water; and it had acquired a good deal of harſhneſs. I had formerly remarked, that the hair and the nails of ſuch perſons as bathed for a conſiderable time in the Ralliere water became hardened, and acquired a yelloviſh tinge, from which circumſtance I was not ſurpriſed by the effects of the ſame water on the wool which was waſhed in it.

After the fleeces have been waſhed, they are dried in the ſhade, on cords hung up in lofts; the black fleeces, and thoſe of ſuch ſheep as have laboured under diſeaſe, as the ſcab, &c. are ſeparated from the reſt; then the fleeces of the older animals, of four and five years old, are ſeparated from thoſe of two and three; from both of theſe the wool of the neck, back, and flanks, as far as the middle of the ſides, are parted as the beſt; and of this the fineſt is taken from the neck and back of young and healthy ſheep, in their ſecond or third year. In every flock, they diſtinguiſh five or ſix kinds of wool; and the difference of ſex and conſtitution, contribute to augment theſe diſtinctions. Theſe circumſtances have even conſiderable influence

fluence on the qualities of the cloth which is manufactured from the wool; and of this I had an opportunity of judging, by examining the homeſpun manufacture of an induſtrious houſewife at Cauterets, who ſpins her wool, gets it worked up by the village weaver, and thus clothes about twenty-five perſons who compoſe her houſehold. Fourteen patterns of her manufacture are ſent along with this memoir for the inſpection of the Society.

*Of the Sheep-Pox.**

This diſtemper, which at Cauterets is called the ſmall-pox, is contagious, and indiſcriminately attacks wedders, ewes, lambs, and goats; more eſpecially during winter, when, ſhut up in confined cots, the animals are kept very hot. It is a very ſingular circumſtance, that this diſtemper ſhould only appear, at Cauterets, after intervals of twelve, fifteen, or twenty years; while in Guienne, and the higher Languedoc, it rages every year. Beſides that, in the former mountainous tract, the weather is colder than in the plains of the latter diſtricts, the ſheep of the Pyrenees are kept more apart from each other than in the low countries, and the different flocks are greatly leſs liable to meet together, or to paſs through the ſame roads, by which they are not nearly ſo much expoſed to the danger of infection.

When ſeized with this diſtemper, the ſheep become dull and weak, and they loathe their food; the head, eyes, ears, and gums, are ſwelled; and hard white tumours appear in the groins, and under the joint of the ſhoulder. Three or four days after the appearance of theſe tumours, pimples break out in different parts of the body. At firſt, theſe are ſituated on the naked ſkin between the thighs, and on the places where the wool is ſhort and ſcanty; afterwards, they break out about the head, and ſucceſſively over the whole body, even on the eye-lids, ears, and throat. In this ſtage of the diſeaſe, the animal ſwallows with pain, being obliged to hold back the head, and to ſtretch out the neck for the purpoſe; and it breathes with great difficulty. As the diſeaſe goes on, the pimples enlarge, and become inflamed, particularly at their baſes; they ſuppurate and burſt; the matter, which runs out, mixes with the wool, and mats along with it into hard lumps, but afterwards drys and falls to powder; the wool falls off in locks; and even the ſcarf ſkin peels off, in large pieces, which are full of holes. When the diſtemper

* In the original, this diſeaſe is named *petite verole*, literally ſmall-pox; and the author gives *picotte*, *clavelle*, and *claveau*, as ſynonymous terms.

diſtemper begins to abate, the ſheep rub themſelves on the poſts of the racks, or any other hard ſubſtance which comes in their way; and by this means, the wool, along with the looſe ſkin, and dried pus, are rubbed off. If proper precautions were not employed, this would infallibly ſpread the contagion, by infecting any other ſheep that might be brought into the ſame cots: But, on purpoſe to deſtroy the infection, new cribs are either ſubſtituted for the old ones, which are pulled down and burnt, or elſe the infected cribs are waſhed with cream of lime *, and the cots are thoroughly fumigated with burning juniper and other aromatic plants.

There are ſeveral varieties of this diſorder. In ſome of theſe, the eruption of puſtules is by no means complete, as above deſcribed: ſometimes the pimples grow black, and dry up without coming to ſuppuration; at other times, the diſeaſe is of a complicated nature. But as the diſorder only appears at diſtant periods, among the ſheep at Cauterets, we are not to expect very full information, concerning its various degrees, from the ſhepherds of that diſtrict; neither have they any decided experience of the effects of ſulphur, of ſetons, or of bliſters, in the cure of this diſtemper. Bliſters are ſaid to have ſcarcely any effect upon the ſkins of ſheep.

It is certain that the fleſh of ſuch ſheep as have died of this diſorder is very unwholeſome, has a very bad taſte, and is even dangerous to eat; and they add, that when dogs happen to feed on it, they catch the diſeaſe, and ſpread it by infection. Three cats belonging to the late Mr Deliſle, a member of this Society, by eating this food, had their heads affected with an eruption of puſtules, by which they were firſt blinded, and afterwards loſt their lives. Hence the neceſſity of the precaution, which is taken at Cauterets, to bury deeply the carcaſes of ſheep which die of this diſeaſe.

I had an opportunity, at a butcher's in Paris, to examine ſome ſheep which had died of this diſorder. The ſkins were covered with ſuppurated puſtules, which penetrated as far as the cellular membrane, and the fat in their neighbourhood was affected, for a conſiderable diſtance all round, being browner and firmer than the ordinary fat; and this alteration penetrated even to the fleſh. The inhabitants of Cauterets affirm, that theſe puſtules are found on the liver and other internal parts of the body.

I made every poſſible inquiry to learn if this diſeaſe was ever communicated from the ſheep to mankind, but could learn no inſtance

* Quicklime and water, mixed into a proper conſiſtence for whitewaſhing.

inſtance of ſuch infection: it is believed, however, in Languedoc, that it is communicated from ſheep to rabbits. I could not learn whether the ſheep were ever affected a ſecond time with the ſame diſorder; but we cannot expect information at Cauterets on this part of the ſubject, ſince the diſeaſe only appears there for a ſingle ſeaſon, after intervals of twelve, fifteen, or twenty years, while the ſheep live but eight or at moſt ten years; ſo that any of them that have once been diſeaſed cannot be alive when the next period of contagion comes round.

Whenever the diſorder appears in the flock, the infected animals are ſeparated from the reſt, and ſhut up in warm cots, having plenty of wheat or barley ſtraw given them for litter; they are fed with hay and aftermath which have been made on a dry field, with a little ſalt, and are allowed lukewarm water for drink.

In the flat country at Tarbes, which is ten leagues diſtant from Cauterets, and conſiderably warmer than in the Pyrenees, and where this diſtemper is much more frequent, a different method of treatment is followed. At the beginning of the diſeaſe blood is drawn by cutting the ear; the cots are fumigated, for five or ſix ſucceſſive days, by burning aromatic and ſtrong ſmelling herbs, preferring the dried ſtems of garlic for this purpoſe; theſe are burnt on a large ſtone in the middle of the cot, while all the vent holes are carefully ſtopped, to prevent, as much as poſſible, the ſmoke from eſcaping. The ſhepherds of Tarbes have great confidence in the beneficial effects of fumigating with garlic ſtems, which occaſions a great diſcharge from the noſtrils, eſpecially in ſuch caſes of the diſeaſe as are complicated with catarrhal diſorders, and with the ſtaggers or vertigo.

At Bellegarde, near Auch, they give to each beaſt a double handful of white mulberry leaves, which they allege is a moſt effectual cure, and ſerves excellently for preventing the attacks of the diſeaſe.

When, at Cauterets, the diſorder begins to abate, whatever be the ſeaſon of the year, the animals are clipt, on purpoſe to aſſiſt the drying of the puſtules, and to favour the growth of a new fleece. After this the ſheep fatten very quickly; and it is worth while to remark, that the fleece, which immediately ſucceeds this diſeaſe, is finer and more ſilky than any former or future fleece on the ſame beaſt.

Formerly this diſeaſe made great ravages among the ſheep at Carcaſſone, till a method was fallen on to inoculate the diſeaſe. I learnt this fact in 1762 from Dr French, an Iriſh phyſician who lived in Languedoc for ſeveral years, but it was not till 1763 that I received particular information on this curious ſubject from Mr Berria, mayor of Carcaſſone, to whom I had written for in-

formation, and who procured me a memoir on the diſeaſes of ſheep in that part of the country. From this memoir the following account of inoculating the ſheep-pox is extracted.

'The Seigneur of Maux, in the dioceſe of Narbonne, is the firſt, and almoſt the only perſon who has practiſed inoculating the ſmall-pox in his flocks; and having been ſucceſsful, during ten years experience of the practice, his widow has ever ſince continued to follow his example.

'In the month of September, when the heat of ſummer is paſt, and before there is any danger of very cold weather; while the paſtures are ſtill in good order, and the lambs, which are now ſix or ſeven months old, are ſtrong enough for withſtanding the force of the diſeaſe, this ſeaſon is choſen as the fitteſt for communicating the ſmall-pox to the ſheep. For this purpoſe the freſh ſkin of a ſheep, either ewe, wedder, or lamb, which has died of the diſeaſe, or, inſtead of that, one taken from a ſheep which has been killed while affected by it, is placed on the floor of the cot. Into this cot all the young ſheep of the year are driven, and they voluntarily rub and roll themſelves on the diſeaſed ſkin. Very ſoon afterwards the ſymptoms of the diſeaſe begin to appear; they have a dull and heavy appearance, hold down their heads, are ſomewhat feveriſh, and loathe their food. In this ſituation the ſhepherd is particularly careful to lead his flock to the beſt and moſt plentiful paſtures. On purpoſe to aid the eruption of the puſtules, bread dipt in wine is given to the ſheep; they are anxiouſly preſerved from being expoſed to great heat or great cold, and particularly from rain. By theſe precautions they ſpeedily recover, and it very rarely happens that even one dies out of a flock of three hundred.

'Although the diſorder has often ſpread over the diſtricts in the neighbourhood of the eſtate where this practice prevails, there has been no inſtance of a ſingle ſheep, after undergoing the above deſcribed operation, having been infected a ſecond time. It ought to have been noticed, that the inoculated flock is carefully prevented from mixing with any other ſheep, by keeping it in a ſeparate cot, and on a particular paſture, the other ſhepherds being forbidden to uſe either for the flocks under their charge. By theſe precautions the diſeaſe is prevented from ſpreading, and ſuch proprietors as do not wiſh to have their ſheep artificially infected, have themſelves to blame if they do not avoid the place where the diſeaſed ſheep are kept. Since this practice has been followed, it has been obſerved that the diſorder has not returned ſo frequently, but that it has not proved in the leaſt degree leſs deſtructive to the flocks which have not been inoculated.

'Mr Berria adds, that the lambs never loſe their wool under the influence of the inoculated diſorder, and that their fleeces are equally

equally good in every reſpect with thoſe of the uninfected, ſo that no difference can be perceived.' *R. r.*

N. B. Further extracts from this curious memoir will be given afterwards.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the Comparative Utility of Horſes and Oxen for Draught.

SIR,

As it is evident, notwithſtanding the undeniable utility of good draught oxen, that they are now nearly *out of faſhion*, (and when that is the caſe, a *good* old faſhion is as obſolete as a *bad* one), it might have been preſumed, that the long continued diſpute, on the comparative merits of them and horſes, was dying away. However, being in ſome ſort called upon by your correſpondent M, Vol. IV. p. 293., who, in a ſtrain ſomewhat exulting, aſks, what I ſhall ſay to his ſtatement of work performed on his farm by two horſes only, I venture once more to aſſert the utility of my old favourite the ox.

If your correſpondent will have the goodneſs to look again at the paper he alludes to, I believe he will there find it ſtated, that my oxen conſtantly laboured with the heavy draught horſes, and actually performed as much work, and to as good purpoſe; and I have ſtill no doubt that the like quantity of work might be obtained from a pair of good oxen, as he ſtates to have been performed by his pair of horſes.

The point at iſſue appears to me to be this; whether it be poſſible to obtain as much labour from oxen, as from the heavy black cart horſes now ſo much the favourites of moſt farmers, even on *ſmall* farms, (for many of theſe do not exceed 100 acres), not as from horſes of a lighter and more active deſcription, ſuch as the light ſandy ſoils of Norfolk are worked with. If the queſtion is diſcuſſed on theſe grounds, I have little or no doubt the reſult will be in favour of oxen.

A diſcuſſion of the comparative propriety of large and ſmall farms, in this country, would lead us into a very wide field of controverſy; for I am by no means an advocate for the monopoly ſyſtem, that ſome ſeem ſo partial to, of large farms univerſally, provided the little farmers, eſpecially thoſe of leſs than 100 acres, would have the wiſdom and patience to uſe oxen, inſtead of their ruinous favourites the heavy horſes, for what little labour they can want, on ſuch ſmall parcels of ground: though it muſt be allowed that they are induced to plough a great deal more than they can find manure for, on account of the heavy burden and coſt of thoſe animals. Take the country as it is, and not, as many

great farmers are wont to ſay it ſhould be, viz. divided into a great majority of *ſmall* farms, with a moſt unreaſonable ſtock upon them, of half-worked fat heavy cart horſes, it is not difficult to prove that the country at large muſt loſe millions *per annum*, on a fair comparative ſtatement of the expence, &c. of both. For unleſs we could bring the horſe, at the end of his term, into the ſhambles, he muſt enter the account as an article of *wear and tear*, or carrion in lieu of good ox beef. Could we ſurmount our prejudice againſt the uſe of horſe-fleſh, as hinted by another of your correſpondents, the whole matter would certainly ſtand on different ground; and undoubtedly it is deemed good for eating by ſome nations; yet I confeſs there is a faintneſs, and particular diſagreeableneſs of flavour in this fleſh, that will probably render it for ever unſavoury to the palates of Engliſhmen.

Many perſons who have been at the Cape of Good Hope, ſpeak much of the oxen generally uſed there, not only for ploughing the ground, but for travelling, and that at ſome ſpeed; nay they uſually repreſent the *horſe*, as totally unable to cope with that burning climate, and ſandy ſoil. There is certainly ſomething in this circumſtance, in favour of a preſumption of the ſuperior uſefulneſs of the ox; he undoubtedly is a patient labourer, and one capable of being made equally docile and tractable with the horſe, when proper methods are reſorted to, and when proper animals of the ſort are choſen for the purpoſe, which is ſeldom the caſe, I muſt own; for he is *certainly out of faſhion*, and nothing ſhort of extreme neceſſity will bring him into it again.

In order to reduce the argument into ſmall compaſs, this appears to me to be a fair way of ſtating it. There is in England a great majority of farms under 100 acres, on which the horſes kept are not fully employed; they can pay for their keep by nothing but their labour; therefore there is a certain loſs occaſioned by idle and unprofitable horſe-fleſh. The ox can perform all the work neceſſary on theſe ſmall farms; he is extremely valuable for ſomething more than his labour, therefore there is no loſs occaſioned by idle ox-fleſh.

I have a farm of 250 acres, long ſince let to a ſubſtantial tenant, which I know has been worked by eight oxen. I have alſo a number of ſmall farms, comprifing together nearly the ſame quantity of land, let to ſeven or eight tenants, on which from 25 to 30 horſes are uſually kept. What is the balance againſt the public? Certainly, were all theſe worked by *oxen*, the public muſt be a gainer. But conſumption is the life and ſoul of trade;—ſo ſays the farmer. Here is conſumption with a vengeance; but not a conſumption that can poſſibly benefit mankind, on any enlarged ſcale of population.—No, no; conſumption though

though a vicious one, may be a very good thing for the farmer; but economical conſumption is moſt for the benefit of the community.

Let us view the ſubject in all its aſpects, and it cannot help ſtriking us very forcibly, that the *horſe* is an article of mere *wear and tear*, and of no uſe to mankind independently of his drudgery; that it is, and ever muſt be, a *deſideratum* in all populous countries, that the whole of their produce ſhould, as much as poſſible, conduce to the nouriſhment of the *human* ſpecies: witneſs China, the moſt populous and beſt cultivated country in the world, and without horſes, which, of courſe, where not eaten by man, muſt be conſidered as joint *tenants* with men, and not, like oxen, ſubſervient to men both in life and death. In fine, we ſhall come to the concluſion, that the ox poſſeſſes ſtrong preſumptive evidence of ſuperior utility in this very reſpect, until the population of any given ſpace arrive at that pitch, that even the *edible* ox with his plough, &c. muſt of abſolute neceſſity be ſuperſeded by *man* and his *ſpade*, which of courſe will bring it, like China, into the *garden* ſtate, or ſtate of higheſt cultivation, 'where every rood of land maintains its man.'

Comparative Statement of the Expence of Keeping, &c.

Horse.	L.	s.	d.
Prime coſt of horſe at 4 years old	30	0	0
Keep, ſhoeing, attendance, &c. &c. for 10 years, at 30l. *per annum*	300	0	0
	L. 330	0	0
Deduct value of ſkin and carrion, &c.	1	1	0
Total coſt of horſe	L. 328	19	0
—— coſt of ox	80	0	0
Difference in favour of the ox	L. 248	19	0

Ox.	L.	s.	d.
Prime coſt of ox at 3 years old	20	0	0
Keep, &c. for 10 years, at 10l. *per annum*	100	0	0
	L. 120	0	0
Deduct value, fat,	40	0	0
Total coſt of ox	L. 80	0	0

Here appears a balance in favour of the ox, which the amateurs of the horſe will find it difficult to fritter down to their own favourite theory; for it is notorious, that one draught horſe will conſume more corn, beſides his hay, than a family of ten or twelve perſons: ſo that if the *datum* before ſtated, and not eaſily to be ſet aſide, be admitted, viz. that ſmall farms worked by *heavy* horſes, do not generally find *full* employment for them, the *community* under the preſent prevailing or faſhionable ſyſtem, of working with horſes, beſides being ſcantily ſupplied with *good* beef, muſt ſuſtain, by thoſe *heavy* horſes, an annual loſs of many millions.

I am happy to obſerve a noble Peer, lately at the head of the Board of Agriculture, ſtep forward with becoming ſpirit to aſſert the utility of the neglected ox, and ſupport his cauſe by a number of very cogent arguments, enforced by a rational and practical account of operations performed by this uſeful animal, under the immediate obſervation of his Lordſhip, ſufficient to place his *real uſe* in rural œconomy beyond all cavil or comment. That nobleman's hints in regard to 'poſitive aſſertions, &c. without proof,' made by perſons utterly unſkilled in the real knowledge and proper uſe of Draught Oxen, are well worthy of the attention of all parties concerned.

RUSTICUS EBOR.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On Planting Oziers and Willows.

SIR,

IF you pleaſe to lay before the publick the following method of planting willows in the fens of Cambridgeſhire, you will probably render eſſential ſervice to many of your readers.

In the fens, many holts (as they are provincially called), or plantations of oziers, are raiſed, which beautify the country, keep the ſtock warm in the winter, and provide much uſeful wood for baſkets, cradles, and all kinds of wicker work, and alſo for cribs for cattle, to eat ſtraw or hay out of, and to make ſtows or hurdles to fence in ſtacks, part lands, &c. &c.; or they make hedges that will laſt four years well; and if allowed to grow five years, many of them would make good fork-ſhafts for hay or corn.

Theſe holts, or plantations of oziers, are commonly made in the middle of the land, in the north and eaſt corners, and ſometimes at any end, ſide, or place, that appears moſt eaſy, or in any reſpect the moſt deſirable.

The ſituation and ſize of theſe holts vary exceedingly: Sometimes they are made, in the middle of lands, from 10 to 60 yards ſquare; and in others, in the ſides or ends, of from 1 yard wide to 10, and from 10 to 100 yards long.

The mode of planting is very ſimple; firſt to dig the land from 6 to 12 inches deep, and then to prick down cuttings of 4 years growth and 18 inches long, at about three feet diſtance from each other. The ſoil ſhould be moor or clay, or any that is low and wet: if drowned half the year it will be but little the worſe.

Theſe holts or ozier plantations muſt be fenced round either with dikes, which is moſt common, or with hedges, as is moſt convenient.

convenient. The proper ſeaſon for making them (though they ſeldom fail of growing at any time) is from the fall of the leaf till very late in the ſpring, and the ſets are very cheap. Such plantations are cut annually for baſkets, ſkeps, ſcuttles, cradles, and all kinds of wicker work; but when the oziers are kept for ſets, or to make hedging wood, or for ſtows or bundles, they are cut only once in four years.

Our mode of planting red or white willows will likely be acceptable; therefore, a few words ſhall be given on that ſubject.

Now, when wood is growing ſcarce and dear in Britain, and likely to become more and more ſo, gentlemen of landed property ſhould cauſe many red and white willows to be planted on their eſtates; and it anſwers well for tenants that have long leaſes to make ſuch plantations, as they turn out a profitable concern. Indeed, in all leaſes, my opinion is, that the tenants ſhould be taken bound to raiſe a given number of young willow-trees. Even tenants at rack-rent ſhould not be excepted, becauſe the meaſure would produce important advantages to the country.

Either the red or white willows will grow well, as may be ſeen in all the fen pariſhes. They will proſper on all kinds of fen, moor or moſs, or wet or low lands; on any kind of clay, loam, or mixed ſoils; but ſhould never be planted on any high, dry, or burning lands.

Theſe willows are always planted of cuttings or boughs, commonly of four years growth; the ſets have frequently the tops cut off, and are left about 8 feet long; but, before planting, they ſhould have the thick end put in water three or four weeks, which makes them grow the better. When the planting ſeaſon arrives, holes are dug about two feet deep, and at nine or ten feet diſtance; the ſets are then put in, and the holes filled up with earth. After the ſets are planted, if the weather be very dry, they ſhould be watered ſometimes during the firſt year of their growth. Such plantations ſhould be either fenced in, or ſtock kept from them for a few years, till they are covered with a coarſe thick bark that ſtock will not eat. Thoſe which were topped before planting ſhould be cut every four years, when they will produce many ſets to plant freſh fields, or valuable wood for other purpoſes.

But it is a moſt excellent plan not to cut the tops off the ſets when they are planted, but to let them grow for timber, and only cut the ſide boughs off every four years for ſets, &c. Theſe willows will grow, in moſt ſituations, more rapidly, I believe, than any other wood, and to a prodigious large ſize, even as large as oaks or elms. The wood is very tough and durable, when kept dry or painted, and is valuable for buildings and other purpoſes.

It is a proverb in the fens, that 'a willow will buy a horſe before an oak will buy a ſaddle.'

I am yours, &c.

A CAMBRIDGE AGRICULTURIST.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Upon the REDUNDANCIES *of* NATURE.

By the BARON MUNCHAUSEN.

SIR,

IT hath been whiſpered to me, that ſome murmurs of incredulity have been raiſed againſt the Talicotian experiment, detailed in my laſt. I am indeed, Sir, well aware of the invidious eyes with which bold Munchauſenian reaſoners are ſurveyed, by the timid followers of that great precautioniſt Bacon. We indeed ſnatch from them the palm of ſcience: We rapidly erect ſyſtems upon the narroweſt grounds of experiment, through extenſion of analogy; leaving to them the mere piddling labour of the verification, by experiment, of our adventurous concluſions. They, on the other hand, endeavour to detract from our merit, by various cavillings. '*Senſations*,' ſay they, 'are of that ſolid, ſubſtantial nature, that they can never be confounded with the *ideas* ſupplied from memory, or ſuggeſted from imagination: But the latter, being of like airy tenuity, from whichever of thoſe ſources derived, are eaſily miſtaken for each other: And we are ſtrongly inclined to ſuſpect that, in the ardour of ſyſtematyzing, you Munchauſenians are apt to preſs, equally, into the ſervice of theory, the fictions of fancy as the recollections of memory; and to bring forward, in ſupport of your ſyſtems, mere imagined analogical inferences, as experiments recollected from the teſtimony of ſenſe.'

Aware of thoſe cavils, I would not have been ſurpriſed, had any of your numerous correſpondents attempted to clap this ſame interpretation upon my Talicotian proceſs for the increaſe of wool. As, however, a full half of your ſolar year has elapſed, without any objection having been offered; and that no one has, during that period, thought proper to accept my challenge of *come and ſee*; I think I am fully entitled to conclude, that the analogical reaſoning, upon which the probability of my experiment was ſupported, has appeared, of itſelf, ſo completely ſatisfactory, that not a doubt remains of the reality of my ſucceſs. Being thus encouraged, I call upon your readers to attend, with tucked up hair, and the ſame eaſy faith, whilſt I pour into their ear, my

Reaſonings

Reasonings and Experiments upon the Redundancies to be found in Nature.

It hath, most foolishly, been adopted as a maxim, or, at least, the maxim hath been most foolishly interpreted, '*that Nature hath done nothing in vain.*' For, from thence, it hath been inferred, that there cannot exist such a thing as redundancy or superfluity in her works; a conclusion which would, at once, set aside the whole of my subsequent reasoning and experiments. Now I do, on the contrary, most peremptorily pronounce, that such interpretation, instead of doing honour to, would most essentially disparage her system of economy. It were, indeed, to judge very meanly of Nature's liberality, or her resources, were we to suppose, that, in the distribution of her bounties, she had niggardly confined herself to the mere conferring of *the absolutely needful*, as if unwilling or unable to spare any farther furnishing: I have, therefore, been ever sturdily determined to conclude, *a priori*, that her favours were bestowd in a much more plentiful profusion: and extensive observation of the state of the fact, hath ever more and more confirmed the justness of my original conception.

To instance, at present, in our bodily senses, do we, in the distribution of the sensitive power, perceive any marks of niggardly stinting? The precious sense of *sight*, not only hath its organs secured from external injury, by a fortification of projecing bone, behind which they lye snugly entrenched, but is equally communicated to two separate organs, that, in case of failure of the one, the other may step forward as its insurer. *Hearing*, and *smelling*, are they not equally furnished with double *apparatus* of organs? And the still more important sense of *touch* (so essential to our more intimate acquaintance with external objects, as also to our more substantial enjoyment of them) is not only equally diffused, in its more intense degree, over no less than ten fingers, by way of multiplied insurance, but also over the whole surface of the body. Like to vegetable juices, however, the intensity of whose peculiar qualities are increased by the condensation of inspissation, but weakned by expansion into occupation of larger space through dilution---So, do we universally find, that the sensitive power is weakened, by diffusion over a multiplicity of organs of the same, or of different senses; but rendered more vivid and acute when concentrated into a few. Hence, the blind are found to possess a more nicely discriminating sense of touching, than those who both see and feel; whence follows the indubitable propriety of putting out our eyes, when we wish to excel in professions requiring the possession of a touch peculiarly delicate. The power of vision

is confeſſedly rendered more acute, when concentrated into one organ; and he who wiſhes to take ſteady aim, therefore, always ſhuts the one eye; though, to render this acuteneſs permanent, I would rather propoſe the total extirpation of the one eye, to ſave the continued trouble of ſhuting it:—perhaps I am the firſt to have ſuggeſted this improvement. When, however, I reflect upon the lateneſs of the diſcovery, with the ſubſequent rapid progreſs of the uſeful inventions of the variolous, and much more, of the vaccine inoculations, I do not at all deſpair of ſeeing the uſeful faſhion of *monoculiſm* become univerſally prevalent. The powers of ſong, in birds, is known to be improved by blinding them; as they *then* take the more delight in exciting in themſelves the pleaſurable conſciouſneſs of exiſtence, by their own melody, when deprived of the capacity of ſuch excitation, from the impreſſion of external viſible objects. Senſibility, both literal and metaphorical, is indeed, thus equally acuated by concentration; and, for this cauſe, the wiſe Homer, to fortify the powers of his imagination, gazed to the effect of total blindneſs, upon the dazzling blaze of the armour of Achilles; when, according to the unſuſpected teſtimony of antiquity, an apparition, for this purpoſe, was conceded to his prayers. The wiſe practice of the amputation of different joints of the fingers, among ſavage nations, which it has ſo much puzzled ignorant travellers to account for, is, I know, certainly to be referred to the ſame rational origin. But I find I am anticipating myſelf.

Having thus illuſtrated my general doctrine of *the actually exiſting redundancy of Nature, in the rate of her furniſhings;* in the inſtance of the diffuſe expanſion of the ſenſitive powers: Having alſo, (in a manner, perhaps, not over methodical), afforded a glimpſe of my theory, and correſponding practice thereupon founded, in the hints thrown out, as to the improvement of ſenſitive excitability—which, I truſt, are not thrown away upon you and your ſapient readers; I ſhall proceed to illuſtrate, and practically to apply the ſame doctrine, in regard to the powers of vegetable and of animal *concoction;* powers ſo ſubſervient, and indeed indiſpenſable to animal and vegetable life, growth and vigour, that I ſhall henceforth beg leave to deſign them, when neceſſary, by the ſhort appellative of *the vital powers.*

In regard, then, to theſe vital powers, there are two diſtinct ſpecies of redundancy, in the one or the other of which Nature will generally be found to be peccant.

1ſt Species of Redundancy.

This conſiſts *in the bulk of body, to be ſuſtained, being overproportioned to the extent of efficacy of the given vital powers.* In this redundancy

redundancy of bulk of body, it is evident that the ſtrength of theſe powers muſt be overſtrained; and that, after all, a due ſufficiency of nouriſhment cannot be elaborated. Of courſe, the *cacoethes (bad habit)* of *inanition* is ſuperinduced; terminating in *atrophous conſumption.*

The cure is ſo obvious, that I need hardly ſuggeſt it, viz. *The artificial reduction of the bulk of the body, to that proportionate circumſcription, through the whole of which the vital powers may be able to extend their efficacy with ſufficient energy and vigour.*

This method of the cure of inanition is, I acknowledge, no new diſcovery; I therefore claim no merit, excepting in the judicious application of it to the economical purpoſes afterwards to be ſpecified.

Every perſon is acquainted with the immemorial practice of pruning trees, to increaſe the vigorous growth of the remaining parts; and of lopping off the heads of ſuch as are tranſplanted, that their ill ſettled roots may have no taſk of nutrition aſſigned them overproportioned to their powers of performance. The *rationale* of theſe practices has, I find, been ſucceſsfully acted upon by one of your correſpondents, in plucking off potato bloſſoms; and, with an effect proportioned to the different periods of operation, *in ſuch wonderful exactneſs*, as has ſeldom fallen to the lot of any other experiments than ſuch as have been conducted under the immediate inſpection of myſelf, the Baron Munchauſen.

This ſame method of cure, or of prevention, which we now uſe in the vegetable, hath, from the earlieſt antiquity, been applied to the caſe of animal inanition; and, for the benefit of your readers leſs verſed in the writings of ancient hiſtorians, and of modern travellers, I ſhall produce, from both, a few inſtances of the more accuſtomed modes of its application. In the very authentic hiſtories of the female republic of virgin Amazons, we are aſſured, that the right breaſt was univerſally cut off; that the powers of concoction, relieved of this draught upon them for ſupply, might ſuffice to invigorate, with manly ſtrength, the arm that was deſtined to draw the bowſtring. Hence, alſo, the wiſe Hottentots continue to this day the practice of amputating the one teſticle, to the ſtrengthening of the leading leg in running; and (as I have ſtrong analogical reaſon to conclude) to the invigorating alſo of the powers of procreation. I might here take notice of the univerſal practice of American, and of more lately diſcovered ſavages, of plucking out the hairs of the beard, and of drawing out certain of the teeth, that the plaſtic powers of nature may not be needleſsly overſtretched in the production or nutriment of uſeleſs ſuperfluity. It may tend more to general edification

edification (as, happily, it may lead to the adoption of imitation) to advert to that moſt ſage and uſeful practice, almoſt univerſally prevalent amongſt the unadulterated ſavage children of nature, in whom reaſon continues unperverted by the artificial refinements of civilized life—I mean the felicitous invention of ſqueezing the bones of the head (by continued compreſſion betwixt deal boards, from earlieſt infancy) into the ſhape of a ſquare, or of a ſugar-loaf: The brain being thus no longer ſuffered to weaken itſelf, by diffuſe expanſion through the whole content of a hollow ſphere—which every mathematician knows to be the figure of greateſt capacity; but, being condenſed and concentrated, from the circumſcription of its circumambient encloſure, into figures of leſs extenſive comprehenſion, the inherent intellect, like the ſteam of water, is rendered more elaſtic and vigorous, through the compreſſion; from whence reſults that great ſuperiority of intellectual and active energy for which ſavage nations have been ſo highly celebrated in the eloquent rhapſodies of ſuch a number of your modern philoſophers. To *them*, indeed, I would moſt ſeriouſly recommend the adoption of the practice, for the benefit of themſelves and families; as alſo, to all families through which weakneſs of intellect has been accuſtomed to deſcend by inheritance.

Numberleſs other inſtances might be adduced, both from the vegetable and animal kingdoms. I preſume, however, the above are ſufficient to convince both you and your readers of the juſtice of my firſt poſition, reſpecting *redundancy*, ‘ that Nature is frequently found peccant, in giving more field for exertion, than the afforded active force can occupy to full advantage;’ and *that*, both in regard to the powers of ſenſibility and of vitality; producing, thus, the general bad habit of inanition, together with all the particular failings of obtuſe ſenſe, and of diſeaſes of debility. I conceive, too, that I have ſufficiently eſtabliſhed the *rationale* of my method of cure, both from analogy, and from the ſupport of wiſe eſtabliſhed practice, viz. *the concentration of powers by the circumſcription of their local diſtribution.* I ſhall not therefore detain you from the main purpoſe of my preſent communication, by an enumeration of the numberleſs cures which I have, upon this principle, performed in the human ſpecies—of atrophy and maraſmus; and of nervous affections of ladies, languiſhing but half alive in the inanition of *ennui*; by the amputation of ears and of noſes; or of legs or arms, in more obſtinate caſes:—But ſhall proceed to ſtate the economical ends whch I have, by this means, ſecured to Agriculture; and theſe relate, chiefly, to *the proceſs of fattening cattle.*

Having, then, had often occaſion to obſerve a redundancy of body in the animal propoſed to be fattened, diſproportioned to

its

its powers of animal concoction, or (indeed, as often) diſproportioned to the affordable quantity of food given it to concoct; I bethought me how this diſproportion might be moſt readily adjuſted: And the practice of circumſcribing the animal's dimenſions within an equalizing meaſure, immediately preſented itſelf; which I thereafter effected moſt ſucceſsfully, by the amputation of one or two of its limbs, as the caſe might require: But though this practice ſucceeded with me to a wiſh, as to the main point, I nevertheleſs found it attended with a ſmall diſadvantage, in its incommoding the animal ſomewhat in the management of its perſon. I long meditated upon the ſubject, therefore, to ſee if I could attain to a more commodious method of effecting my purpoſe. I believe I ſhould have given up the matter as hopeleſs, had it not been for the information I ſubſequently obtained in Abyſſinia (which, by the way, ſhows the advantages of travel), where I reſided ſome years along with a countryman of your own, who has publiſhed ſeveral things which, I believe, he might have gathered from my information, though he has not always had the candour, or diſtinctneſs of recollection, to quote my authority. I there procured me a couple of ſkilful anatomical butchers, who (according to their country's practice, which my fellow traveller has ſo amply detailed to the public) could ſerve you up raw ſteaks, all quivering with life, from the muſcular fleſh of a live cow, to the gueſts within doors, while ſhe ſerenaded them with her bellowings of agony from without; till, through the dexterous avoiding of the greater blood veſſels, her whole fleſh was cut from off her body, and ſhe preſented to the eye a moſt curious and complete living ſkeleton of mere bones, veins, and arteries; ſo that her aſtoniſhment at her own appearance ſuſpended the feelings of her torture. By their aſſiſtance, I had recourſe to the Abyſſinian mode of circumſcribing bulk, by ſtripping off part of the fleſh, inſtead of amputating the limbs of my cattle deſigned for fattening. In the operation, I carefully preſerve the ſkin and bone of the limb intended to be macerated,—carefully tying up the arteries belonging to the muſcular fleſh which I extirpate; the ſkin is then applied to the bone, to which it very ſoon adheres; and the limb, continuing ever after to be mere ſkin and bone, requires little or no nouriſhment from the concocting powers of the animal. Here, however, I muſt beg to warn the reader againſt miſtake, ſhould he be inclined to avail himſelf of this my precious invention. He will no doubt have read, in your traveller, an account of a fact, of which, indeed, I myſelf was an eye-witneſs, viz. 'Of a parcel of ſoldiers upon a march throwing down a cow they were driving before them, cutting a hearty breakfaſt of beef-ſteaks from the muſcular fleſh of her backſide,

which

which they devoured raw before her very eyes; then ſowing up the ſkin, and driving her again before them, to furniſh like meals, in like manner, at their ſubſequent places of reſting.' Now, though I pledge my veracity to the truth of the fact; and can, indeed, never ſufficiently admire the advantages of Abyſſinia, in poſſeſſing, thus, automatous proviſion, ſuperſeding the neceſſity of proviſion-waggons to attend the march of armies; yet I muſt caution my readers, that the circumſtance, of cows being able to move without the aid of muſcles, I have found to be excluſively peculiar to the animals, or to the climate of Abyſſinia. You can nowhere elſe

'*Kill half a cow, and turn the reſt to graſs.*'

I aſſure your readers, that all my diminiſhed animals are, of neceſſity, houſe-fed in ſtalls, having ſlings (like horſes on ſhipboard) to ſupport their weight in ſleeping; their macerated legs becoming rigid, and ſerving only as ſtationary ſupports. Moreover, they muſt be all ſlaughtered at home, as they cannot carry themſelves to market—an inconvenience little felt in near vicinity to market towns, or where there is convenience of water carriage.

Upon the whole, the conveniences of my Abyſſinian practice, for the proportioning the ſize of the animal to its powers of concoction, or to the food that can be afforded it to concoct, in giving to private families, in country places, the deſireable opportunity of prolonging the ſeaſon of freſh meat, by eating half their beaſt, while the other is left alive, to ſerve upon another occaſion, the expenſive operation of ſalting being, meanwhile, almoſt totally ſuperſeded----theſe conveniences are, I apprehend, too great to be neglected, as they are too obvious to be overlooked. I have juſt to obſerve, that, when ſo much as an entire half of a beaſt is taken away at once, to ſuit family convenience, there is ſome danger of an enſuing *plethora* in the remaining half; a danger that may however be avoided, by ſuffering the animal to bleed freely in the operation. This leads me to conſider the ſecond and oppoſite ſpecies of redundancy; which I ſhall diſcuſs, after a manner equally luminous, in ſome future communication. MUNCHAUSEN.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On Capons; and Information requeſted concerning the Cutting of Straw.

SIR,

IF it be allowed, as ſtrongly aſſerted, that a capon is preferable to a hen, or to a cock, of whatever age, and that the former

former is more eaſily and ſpeedily fattened than either of the other two, perhaps it may be deemed an object in Scotch rural economy to recover the art of ſafely performing the neceſſary operation. That this muſt have been generally known and practiſed formerly, is evident from this, that kain-capons were paid in many parts of Scotland; and if it be yet preſerved in this country, or can be obtained from any other quarter, you are requeſted to have the goodneſs to make it known, by inſerting it in your very uſeful Publication.

I have to requeſt your attention to another ſubject, ſhould you think it worthy of notice. I have more than once ſeen deſcriptions of machines for cutting ſtraw, with explanations of the principles upon which they were conſtructed; but I do not recollect to have met with a detailed account of the uſes to which the ſtraw, when cut, ought to be applied, nor of the advantages attending it. Will the expence of the machine, and the labour of the people who work it, be returned to the farmer who uſes it? In Bengal, where oxen are almoſt the only animals employed either for draught or for burden, the principal part of their food is cut ſtraw, to which is often added, a certain daily quantity of a ſpecies of pulſe. Indeed, the cattle which are there ſtall-fed are fattened principally on theſe two articles; and excellent beef they become. Yours, &c. S. J.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Obſervations on the Beſt and Moſt Economical Method of Boiling Potatoes.

SIR,

IN your Supplement, a receipt is given for boiling potatoes, which I have formerly ſeen; and it was then ſaid to be recommended by Count Rumford. Admitting it to have been recommended by that celebrated economiſt, I muſt affirm, that the receipt is calculated not only to boil, but, at the ſame time, to ſpoil the potatoes, cooked in the mode therein recommended, when they are in the ſmalleſt degree of an inferior quality; particularly by putting in cold water from time to time, to leſſen the heat of the water in the pot, and boiling them with their ſkins on.

The fact is, that to render potatoes mealy, *they muſt be boiled in the moſt expeditious manner poſſible*; and for accompliſhing this, I give you the receipt followed by my own goodwife at home. Potatoes of laſt year's growth are generally of an indifferent quality;

quality; but any attentive houſewife who tries both methods, can then judge which deſerves the preference.

1*ſt*, Pick out the quantity to be uſed as nearly of an equal ſize as poſſible, let them be well waſhed, and the ſkins ſcraped off, as is done with carrots, taking out the eyes, and any earth that remains about them, with the point of a knife; when the potatoes are large, they may be cut into two, three, or four pieces; throw them one by one, as they are done, into clean water, and rinſe them well about, before they are put into the goblet.

Slovenly ſervants, if not prevented, will return the ſcraped potatoes into the veſſel amongſt the muddy water and ſcrapings; in which event, they will be diſcoloured with the colouring matter of the ſkins.

2*dly*, Put the ſcraped potatoes into a goblet that has a tight well-fitted cover, with as much clean water as will barely cover them; throw in a little ſalt; ſit on the cover as cloſely as poſſible, for keeping in the ſteam, and increaſing the heat, *and place the goblet on the hoteſt part of a hot fire*, in order that it may boil as rapidly as poſſible. Whenever the potatoes are enough boiled, they muſt be taken off the fire, otherwiſe they will immediately begin to abſorb the water (to the detriment of their mealy quality); which being poured off, the goblet is again put upon the fire, with the cover off, to dry up the moiſture; they are then taken out with a ſpoon, and put upon a diſh for ſerving up to table.

Potatoes, *boiled in this manner*, will be found perfectly clean, more mealy than when dreſſed with the ſkins on; beſides, when they come to table in this laſt mentioned ſtate, it is certainly a very diſagreeable operation, taking off the ſkins, by ſoiling the fingers, dirtying the table-cloth, confuſing the plates, and taking up the time and attention of the eaters, when they ought to be better employed. The mode here recommended is alſo more economical; for if part of the potatoes ſhould fall down into meal, it is found perfectly clean, and fit for being made into a pudding; but when the ſkins are left on, the mealy part being attached to them is entirely loſt, or only fit to be given to ſwine or poultry. I am your old friend, *E*——.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the Advantages of Potato Huſbandry.

SIR,

IN the Strictures on Farm-Management near London, page 453. laſt volume, the following obſervation, or rather advice,

advice, is given: 'When potatoes are cultivated in the field to any extent, they may occupy a part of what has been allotted for oats or beans in the foregoing scheme of rotation; but they ought never to be put in the place of a perfect fallow, as the potato culture cannot clean the ground in any effectual degree from root-weeds; they must always be considered as an exhausting crop, and consequently the soil after them ought to be well manured.'

These observations should have escaped my notice, were it not that the same unfavourable idea respecting the culture of a root that has afforded more relief to the poor, and yields a larger quantity of human sustenance from an acre, than is to be got from any other crop whatever, seems to be entertained not only by almost all your correspondents, but even by the Conductor himself, whose ideas and sentiments respecting rural œconomy, in general, are fully as correct and just as are to be found in any publication on the subject, that I have perused. A reflection upon these things induces me to communicate some circumstances that have come under my observation, in the course of a long and tolerably extensive practice. For considerably more than half a century, I have every year been engaged in the cultivation of potatoes, to an extent, on my own account and that of others, seldom less than ten, and frequently above twenty acres annually, besides seeing the culture of above a hundred acres more in my immediate neighbourhood, after which, in common seasons, wheat was sown; and unless bad seed was used, or bad weather occurred, the crop rarely failed of yielding the weightiest and most abundant return, that was produced from fields managed in a different way. Drilled beans, for these thirty years back, have been greatly cultivated as a preparation for wheat; yet, in so far as has come under my observation, and where the ground has been in the highest state of preparation, take one year with another, the produce of wheat after beans has not, in general, been within a fourth or fifth less than what has been got after potatoes. Nor has there, in general, any conspicuous degree of inferiority appeared in the subsequent crops on the same field after potato wheat, to those after bean wheat, when equally distant from being manured.

In spring 1801, when putting in my beans, which, for more than thirty years past, have in general been all drilled, I found a part of a field, about sixty yards in length, across one end where the ground was a little stiffish, so much infested with couch grass, that I determined to give it a complete fallow, as, from its appearance, it could not be thoroughly cleaned in drilled beans. Some weeks after, I thought of taking a crop of potatoes. It

was ploughed twice or thrice by the last week in May; furred up in drills; the dung then laid in, and the potatoes planted and covered from one side only with a small furrow. Two weeks after, ploughed an ordinary furrow from the other side of the drill, laying it above the seed, shifting a little the shoulder of the furrow that covered them: in eight days after, harrowed all over: they were hoed, pared, and furred up in the usual manner; and, in October, produced a very plentiful crop, and not an atom of couch to be seen. Where the beans (which were a very good crop), were taken off, a plough was run down the drill; and in a few days the field was harrowed, well dunged, ploughed alongst with what had been potato, and sown with wheat. The crop, where the beans grew, was tolerably good; that after the potatoes very abundant, fully three bolls the acre better than the other; and this last year the barley was equally good with that where the beans grew, though on inferior soil. How all this is reconcileable to the very impoverishing effects so generally ascribed to a potato crop, is somewhat mysterious.

That a perfect fallow in general, in many situations, and for some soils in any situation, is preferable to cultivating potato crops, is incontrovertible; yet where the soil is light and dry, it must be in a dreadful state indeed, if a potato crop, properly cultivated, does not clean the ground pretty effectually, and ensure, with more certainty, as weighty a crop of wheat as would be got by a perfect fallow. Even loamy soils, though somewhat heavy, are often in a state with couch grass, that it would be very unadviseable to attempt its extirpation by a crop of drilled beans, when it might be done, with considerable success, by taking a crop of potatoes; and there is no comparison as to the chance for a crop of wheat.

Few seasons permit much to be done for cleaning land of root-weeds before the middle of March, by which time drilled beans should be in the ground. From that to the middle of May, when potatoes may be planted with success, a great deal, in most seasons, may be done for cleaning the land of couch and other roots, which, during that time, if in beans, would have been acquiring additional increase. Besides, potatoes may be planted in such a way, as that a great part of the ground can be turned over two weeks after, and kept stirring for eight or ten days longer, without any injury to the crop; and no sooner do the plants appear, than the interstices can be ploughed again, and closer to the rows, than can with safety be done to drilled beans. Very little earth thrown on them does great hurt, whereas the more that is put on potato plants, if not totally covered, so much more they thrive; and the hand-hoe, by the stems being at a greater distance, can be

be applied with more effect, and longer throughout the season, than is possible to be done amongst drilled beans.

It has been recommended as an antidote against the impoverishing tendency of potato crops, to pluck off the apples; but, from what has hitherto occurred to me, that precaution does not promise to have much effect. Sundry kinds of potato bear no apples; yet, when planted in the same field with those which do, the crops after either have appeared to be much on an equal footing. Besides, it has been usual, from the first planting of potatoes in the fields, to begin lifting them before the apple was well formed; and this has been done to so great an extent in many fields, that a considerable part of the whole crop is often taken up before the remainder arrive at full maturity, though the difference in the after crop, where the potatoes had been early lifted, or where they had been late, provided the grounds were ploughed and sown at the same time, has never been remarkable.

It is very obvious, that the potato culture can never be carried to the same extent, in general, as the culture of turnips; yet there are many situations where potatoes may be raised with as much profit as turnips, especially in wheat districts, even though they cannot be disposed of or sold. They may be consumed by farm horses, one feed a day being of great benefit, and acknowledged to be so by all who have practised it; by young horses; or by milk cows and other cattle after March, when no other green feed can be got for months. For any of these purposes, one acre of the white yam potato, properly cultivated, will produce more subsistence than three or four acres will do in grain, and with a greater certainty of a good after-crop, especially if for wheat, than if the ground had been turnip. I have never observed that crops of turnip were more fertilizing than crops of potato, nor that crops of wheat, in general, are so abundant after the former as the latter.

It has long been my opinion, that an acre or two of the yam potato, with a few green kail, either of which, on bleak soils, will afford more aliment than is to be got from any other crop, would be a great acquisition in high, late districts, for young cattle and milk cows, in the end of the season after the turnip is over, when, except a little verdure by the side of a brook, not a green blade is, in many years, to be had for two months; and afterward, where these grew, if properly sown with grass seeds, an earlier grass, and a closer sward, will be produced than can be got when grass seed is sown without taking a summer wrought crop, or a complete fallow. It is clear and obvious, from what occurs daily, that one young beast, properly attended to, is

worth two fed ſparingly, much more ſo when nearly ſtarved; and the ſame holds as to milk cows.

It is not only the duty but the intereſt of every individual to promote the improvement of the country; at the ſame time, care ſhould be taken never to miſlead others. Nothing ſhould be recommended, but with great caution, that has not been proven from experience, as your correſpondent has judiciouſly done reſpecting the drilling of tares for green feed, which will be found no improvement. I have tried them oftener than once. Tares in drills ſoon fall over; or rather, as ſoon as above ground, creep along the ſurface, and prevent either hoe or plough being applied with any effect; and, what is ſtill worſe, the land does not produce half the bulk when they are in drills, that it does when they are in broadcaſt, if thick enough ſown, which ſhould never be neglected when intended much for green feed; a cloſe crop comes faſter forward, in the beginning of the ſeaſon, than a thinniſh one.

That ſome ſpring feed for ſheep, worth the expence, may be got, in the early parts of England, by ſowing tares or rye, where the ground is in good order, and intended for turnips or barley, may be poſſible; but nothing like an equivalent to the expence can be expected, even in the earlieſt parts of this country, by reſorting to ſuch expedients.

I have ſeldom or never ſeen a crop of either rye or tares, even where the ground was in a high ſtate of cultivation, and ſown early in Auguſt, worth twenty ſhillings an acre for feed, by the time that ground intended for a crop of barley muſt be ploughed over; and the ſeed commonly coſts more money than the crop is worth. If a degree of herbage, that would be an object, could be had from ſowing rape, the expence for ſeed would be but trifling.

The proſpect, laſt harveſt, of a ſcarcity of feed in ſpring, induced me to ſow about three acres with rape, which ſeems to be coming on; and the reſult ſhall be communicated to you for information to others. Your tithe correſpondent, uſing the ſame deſignation as mine uſed to be, I, for diſtinction's ſake, ſhall ſubſcribe myſelf, Yours, &c.

Mid-Lothian, January 1804. T. S. S.

NOTE BY THE CONDUCTOR.

When young troops are cheered and encouraged by thoſe who have grown grey in the ſervice, it is a pretty ſure ſign that they have reached a conſiderable degree of perfection in their tactics, otherwiſe

otherwiſe ſuch ſupport would not have been beſtowed. On theſe accounts, it always affords us much pleaſure to be favoured with communications from veterans in huſbandry; and we return our beſt thanks to the gentleman who has ſo obligingly tranſmitted the foregoing practical remarks.

If, under theſe circumſtances, one or two obſervations might be hazarded, we would ſay, that it is phyſically impoſſible to clean land equally well when employed in the culture of potatoes as when turnips are taken; becauſe a greater ſpace of time can be devoted to the previous preparation, in the laſt, than in the firſt caſe. That the profit ariſing from potatoes, and the produce of wheat in the ſucceeding year, may both be greater than where turnips are cultivated, we do not feel diſpoſed to deny; but that numerous obſtacles ſtand in the road of extenſive potato huſbandry, a few favoured ſituations excepted, we think to be incontrovertible. Theſe may be leſſened, but, generally ſpeaking, they never can be altogether overcome.

With regard to beans as a cleaning crop, we preſume that few practical agriculturiſts view them as equal even to potatoes, far leſs as meriting to be ranked with turnips. In fact, when beans are drilled, it is only intended to *keep* the land clean, not to *make* it ſo. We can ſafely ſay, that our beſt crops of wheat, both in reſpect of quantity and quality, are generally after beans drilled and horſe-hoed. The beſt bean land, however, is not the beſt potato land; therefore, what is here ſaid does not in the leaſt impugn the accuracy of our correſpondent's remark.

As to raiſing winter tares and rye as articles of ſpring food, we cordially agree with our judicious correſpondent, that, in this country (Scotland), ſuch cannot be attempted with the ſmalleſt proſpect of advantage. We have ſeen both tried, but the reſult was unfavourable. Our harveſts are too late, our winters too ſevere, our ſprings too cold and backward, for getting benefit from articles that certainly prove beneficial reſources to the farmers of our ſiſter kingdom. N.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the Mode uſed in Eaſt-Lothian for Striking the Annual Fiars of Grain.

SIR,

It is unneceſſary to inquire concerning the origin of what is called *ſtriking the fiars of grain;* but it may be uſeful to inveſtigate the rules eſtabliſhed in different counties for carrying this

ancient practice into execution. The rents of many farms, and the ſtipends of many clergymen, being paid according to the prices thus aſcertained, it becomes an object of general importance that they ſhould be calculated upon correct and equitable principles.

At this time, it is only my intention to ſtate ſome particulars reſpecting the Eaſt-Lothian practice; becauſe, in that county, a more ſuperior attention has been paid to method and accuracy than in many others. If I am able to ſhow that the rules eſtabliſhed there, and uniformly adhered to for more than a century paſt, muſt eventually raiſe the fiars higher than warranted by a fair average of prices, I preſume it will at once be acknowledged, than an alteration of theſe rules is expedient and neceſſary. Nay more, that ſuch alteration would be doing no more than impartial juſtice to thoſe who are obliged to make payments according to the rate of the annual fiars.

In Eaſt-Lothian, the firſt ſtep of proceſs is to take a regular and extenſive proof concerning the quantity of grain bought and ſold, and the prices paid and received for it; all which is done with ſingular preciſion and exactneſs. The prices are next extended, which aſcertains the total value of the grain; the total value is then divided by the number of bolls deponed to, the quotient giving the *ſecond* fiars, which, in reality, are the fair average of prices during the period included in the proof. A new account is then made up of all the bolls ſold *above that average*; and, dividing the value thereof by the number of bolls in that claſs, the reſult gives the firſt or higheſt fiars. In like manner, by going to the prices which are *below the average*, the third fiars are aſcertained. I ought to have mentioned that two and one half *per cent.* have, ſince 1678, been regularly added to the prices deponed to, though no ſatisfactory reaſon can be given for this addition.

From the above particulars, it will at once appear, to any man of buſineſs, that what is generally called the Eaſt-Lothian fiars, can only be characteriſed as a correct average of the price of grain for the deareſt and ſcarceſt market days, with the addition of two and one half *per cent.* thereupon, and that thoſe, who make payments according to the rates ſo fixed, muſt unavoidably ſuſtain a heavy loſs. In fact, even laying the two and one half *per cent.* aſide, no farmer, who attends market regularly, can ſell his grain ſo high as the fiars. Were he even to command the beſt price of each day, ſtill he would be below the fiars, becauſe ſuch are formed excluſively from the higheſt markets, while the remainder is abſorbed in the ſecond and third rates. When the addition of two and one half *per cent.* is taken into account, it

can

can hardly be disputed that those, who pay by the fiars, must, without all peradventure, be considerable sufferers.

To make the matter more plain, I beg leave to mention some circumstances which have lately come to my knowledge, the truth of which you may depend upon. On a farm of good wheat soil, and where a regular thrashing of that grain had gone forward since last autumn, I find that, of a quantity approaching to 800 bolls, the average price thereof, which, of course, is the actual value received by the farmer, amounted precisely to 25s. 10½d. *per* boll; whereas, according to the plan adopted by the Sheriff, already detailed, the first fiars, had they been formed from the wheat of this farm, would have amounted to 27s. 7½d., or 2d. *per* boll higher than what is fixed by interlocutor of Court. This result proves two things; *1st*, That the wheat in question was at least equal in quality to what was deponed to in the proof, seeing that the fiars formed from it, are something higher than the general result; *2nd*, That the Sheriff's figures may be received as correct, because they approximate to this private statement. But having made these admissions, I cannot avoid remarking, that the result likewise shows, in the most convincing way, that the highest fiars are struck upon improper principles. If the farmer alluded to was liable in a wheat rent, payable according to the fiars, he would actually have been obliged to pay one shilling and seven pence more for each boll than he got for it, even notwithstanding that the fiars formed from the wheat he had sold, exceeded the rate ascertained by the Sheriff.

Allow me now to urge a few words concerning the two and one half *per cent.* addition.

I never could rightly understand the cause of this additional charge, though I have heard several assigned in favour of it. By some, it has been said, that it was on account of the increased value of summer thrashed grain: but surely, when applied to rent or stipend, this reason bears no force; for grain, payable as rent or stipend, is deliverable betwixt Christmas and Candlemas, consequently cannot be benefited by summer drought. Others allege, that it is on account of credit given upon grain; but this, if true, would lead us to believe that neither rent nor stipend could be demanded till Michaelmas, a circumstance contradicted by the practice of the country. In short, the addition is altogether unjustifiable, and ought to be departed from. Those who sell the grain, who take all the trouble, and run every risk, ought rather to have a deduction from the average price, than be saddled with an addition. In mercantile concerns, consignees receive commission from their employers; but

here the tables are turned, and the conſignee, beſides running all riſks, is ſubjected to an additional charge, merely becauſe he takes the trouble of acting for the landlord or clergyman.

I am well aware that, as the Eaſt-Lothian mode of ſtriking the fiars received the ſanction of our ſupreme Scotiſh law court in 1773, no alteration can regularly be made without its interference. I preſume, the juſtice and expediency of an alteration being evident, that this might be eaſily obtained, either by an action of declarator, or, which would be better, by a petition from the learned gentleman who acts as Sheriff. I leave others, however, to determine upon the moſt proper means; but am certain that relief in one way or other ought to be beſtowed. In my humble opinion, if the old mode of ſtriking the fiars is retained, that is, if they continue to be made up in ſuch a way as to exclude grain ſold on cheap market days from having any weight in determining what, in reality, conſtitutes the fiars of the county; and if the extra charge of two and one half *per cent.* is ſuffered to remain; then I am warranted to affirm that every perſon, who pays either rent or ſtipend according to the rates ſo eſtabliſhed, is groſsly injured, being, in common ſeaſons obliged to pay from ſix to eight *per cent.* higher than a fair average of prices would juſtify, and a great deal more in ſome years, when grain is more variable in quality, and prices more fluctuating. I am yours, &c.

N. B.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the Culture of Ruta Baga.

Sir,

If your Magazine ſhall continue to advance in reputation as hitherto, or even if it ſhall retain its preſent extenſive circulation, it muſt become highly advantageous in bringing, to early and certain proof, every invention in mechanics connected with agriculture; every new method of cultivating the ground, which wiſdom, increaſed experience, caprice, or a ſpirit of adventure may ſuggeſt; and every adoption of plans into our rural economy, the hiſtory and culture of which have not before been familiar to us. Had your Magazine exiſted when turnip and potatoes were firſt cultivated in the Scotiſh fields, I am confident the progreſs and ſucceſs of theſe very valuable roots would have been much more rapid, by means of the light which the ſpeculations and facts recorded therein muſt have thrown

on

on the ſubject. And, to take a more recent inſtance, I am of opinion that, had your Magazine been coeval with the introduction of Swediſh turnip, we ſhould not, after ſo long a trial, have been at a loſs (as ſeems to be the caſe) to pronounce on the value of that plant. At preſent, it ſeems doubtful whether this ſpecies of turnip ſhall, like the common turnip, continue to hold a permanent place amongſt our field green crops; or whether, like the root of ſcarcity and others, after being talked of for ſome time as a novelty, it ſhall diſappear from our fields, and be configned to a narrow ſpace in our gardens. My own opinion of the plant is, however, very favourable, more ſo than thoſe of your correſpondents in your laſt Number (XVII.) whoſe ſtrictures have ſet me a thinking on the ſubject at preſent. The high utility of this root, for the purpoſes intended, ſeems to be generally, if not univerſally admitted; but the important queſtion at iſſue is, whether it can be cultivated ſucceſsfully, upon a large ſcale, as food for cattle. This queſtion, in the country where I live, is quite undecided; nay, for ſome years paſt, I have not been able to aſcertain, from obſervation, whether its culture be gaining or loſing ground, or whether it is not ſtationary. When I talk to ſome of my neighbours, who approve of its culture, they wonder with me that it is not gaining ground faſter; when I ſpeak to a different ſet of people, I find their opinions unfavourable, either from the reports of others, or from the trials they themſelves have made.

The late Mr Henderſon of Pilmour, one of our moſt inteligent farmers, told me he had given up the culture of baga, becauſe of its propenſity to run to ſeed; and the ſame objection I have heard from others. The fact I believe to be incontrovertible, that where it is ſown like the common turnip, it has a much greater tendency to run to ſeed than the other; and ſo great, as very often to injure the crop eſſentially. In conſequence of this quality, I very early was adviſed to cultivate the plant, not as we do other turnip, but in all reſpects as we do field cabbages; and although, even with this mode of culture, ſhooting is more prevalent than with the common turnip, yet I have never ſuffered materially in this way. At the ſame time I cannot ſubſcribe to another doctrine I have often heard held, reſpecting this root, viz. that its ſhooting does not affect the quality or ſubſtance of its root. Owing to its much greater hardneſs, the ſubſtance is not indeed ſo eaſily drawn off and exhauſted as from the common turnip; but ſtill there muſt be ſome diminution of the nouriſhment, even if it ſhould begin to ſhoot after the bulb has attained its full ſize: But if it ſhoots in the latter end of ſummer, or in autumn, before the bulb is filled, the crop becomes good for nothing. For a number of years I have

have ſown (commonly in my garden) a bed of baga ſeed, on the 20th or 21ſt of April: the plants are generally ready for tranſplanting by the middle of June; and about the time I am ſowing my common turnip, I dibble the young baga plants in rows, as I do my cabbages, only with ſmaller intervals; and have in general found my crop of baga as certain as that of my common turnip, and more certain than my cabbages. The trouble of tranſplanting is balanced by the ſaving of one hoeing, and the ground has had the advantage of being ſomewhat longer worked by the plough in fallow.

I have not found, as your intelligent correſpondent (a Member of the Eddleſton Farmers' Club) ſuggeſts, 'that the Swediſh turnip requires land richer by nature and art;' but I find they do beſt in deep land, and that they will grow well in land ſo moiſt as would deſtroy the common turnip. When I have conſidered the greater denſeneſs and weight of the Swediſh turnip, I have often thought that theſe made up for the larger ſize of my common turnip; but never having made an accurate trial of the weight of the two crops, I here ſpeak from conjecture only.

Your correſpondent adds, that they are 'only to be regarded as a corps de reſerve for ſpring.' My experience of them would diſpoſe me to cultivate a larger proportion than even that; but if by this be meant, ſuch a quantity as will be ſufficient to fill up the chaſm in our green meat, from the time of the general failure of the common turnip till our graſs is ready, the value of the ruta baga, by ſerving this important purpoſe, is moſt abundantly eſtabliſhed; and more eſpecially ſo in ſuch a climate as your correſpondent deſcribes, where, 'two years out of three, all the turnips upon the ground at Chriſtmas are entirely loſt by the froſt.' I have ſometimes complained that my turnip ſuffered more than thoſe nearer the coaſt, and in drier ſituations around; but I have never experienced any ſuch loſs as that mentioned, even when the turnip have remained in the ground till March.

I have ſet down the date when I judge it fitteſt to ſow and tranſplant baga; but conſiderable latitude muſt be given here, according to local ſituation, climate, and weather. The drought laſt ſeaſon made me defer the planting of my baga till the 29th June, and ſome till the 8th of July; and although we had no rain till the 7th July, both crops did well. I think, however, there is great riſk in putting ſuch plants into dry ground in dry weather; and that it is much better, in general, to wait till you get moiſture ſufficient to ſet them off readily.

When the ground is fully reduced by the ſpade and rake, all the ſeed may be expected to ſpring; and I have erred ſometimes, in not allowing ground enough to give the plants full vigour for tranſplanting in due time. When nets are not at hand, the ſeed bed ſhould be covered with dry leaves, or any light litter, to

prevent

prevent the ravages of small birds when the seeds are springing, as, at that time, such are excessively fond of them. The same is a security against frost, when the plant is very tender. In the latter end of May 1802, a season so frosty as materially to injure the beech, larix, and other forest trees, I lost my bed of baga after they were sprung, by neglecting to give a slight cover to the surface, while one of my neighbours preserved his plants unhurt, by having taken this precaution.

As your correspondent *R r r* intimates his resolution 'not to desist from having two acres or so of fallow, annually, in ruta baga, till experience determines positively, whether to extend its culture, or to give it up altogether;' may I request of him to set apart a half or a quarter of that ground for a transplanted crop?

A Fife Man.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Queries by a Buchan Crofter.

Sir,

If you think the following queries deserve a place in your useful Magazine, it will oblige me much that they are inserted as speedily as possible. I feel myself very incompetent for the subject, but trust some of your intelligent correspondents will favour me with the result of their investigations.

1. What degree of heat is necessary to produce vegetation?

2. What is the mean heat of our summer, (*i. e.* from the 1st of March to the 1st of October), in Scotland, taking the mean of 3, 5, or 6 years?

3. What degree of heat and quantity of moisture is necessary to bring the farmer's crop (corns) to perfection?

4. Have we that degree of heat in Scotland?

5. What is the difference of summer heat in the north and south of Scotland?

6. What difference of summer heat in North and South Britain; not taking Edinburgh and London as a medium for either?

7. Whether the quality of the crop be proportionate to the degree of heat; or how far the temperature of the atmosphere and quality of the crop coincide?

As the state of the atmosphere is so essentially connected with agriculture, I beg leave to propose, that some of your correspondents in each county, from Tweed to Orkney, would keep a meteorological journal. I suppose a few pages of your Magazine would contain all their reports, and that these would give a tolerable idea of the quality of the crop in general, and particularly add to the satisfaction of many of your numerous readers, as well as that of

A Buchan Crofter.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

The Queſtion conſidered, whether Ruta Baga or Yams can be moſt profitably cultivated.

SIR,

I HAVE obſerved a good deal ſaid, in your Publication, on the culture of *ruta baga*, as a ſuccedaneum for turnip in the ſpring; and have paid conſiderable attention, not only to the arguments of your correſpondents, but alſo to the crops of that root, which have been raiſed for ſeveral years paſt in this country. With a full impreſſion of the neceſſity of having an article for the ſupport of live ſtock after the turnip ſeaſon, I am inclined to believe that the object, in general caſes, would be more effectually gained, were ruta baga laid aſide, unleſs upon very fine lands, and the variety of potato, commonly called a yam, ſubſtituted in its place.

The precarioufneſs of ruta baga as a crop, has been acknowledged by almoſt every one of your correſpondents who has treated upon the ſubject. It requires ſoil of the beſt quality, and a large doſe of rich dung, to inſure even a middling crop; therefore can never be generally nor profitably cultivated by common farmers. I am well aware, that a root of the ſame ſize is nearly of one third more weight than one of turnips, and that, in point of nouriſhment, there is alſo a very conſiderable difference. Still, after all, when we look abroad, and view the ſmall crops that are commonly raiſed, and take into account the ſuperior care beſtowed upon this root, it muſt be acknowledged that neceſſity, not profit, is the impelling cauſe of its culture.

On the other hand, yams preſent every advantage which can be got from ruta baga, and are not ſo pettiſh in their growth. Their culture is a matter of far leſs difficulty, as ſuch will grow upon ſoils where ruta baga would ſtarve. They require leſs manure, and may be planted as late in the ſeaſon as the other, thereby enabling the farmer to beſtow the like previous preparation upon the ground, the want of which is a general argument againſt ordinary potato huſbandry. By taking them up in October or November, they may be ſafely houſed, and the ground directly ridged up and ſown with wheat. No doubt, ruta baga may be removed at the ſame period; but it often happens that the root has not then reached maturity; its growth being rarely impeded till froſt ſets in.

I believe that very few crops of ruta baga, exceeding ten tons per Scots acre, have been got in this country, and that many do not exceed one half of that weight; while, on the other hand, I am pretty certain that ſixty bolls of yams, which amount exactly to twelve tons, may be got, were ſuch planted upon land ſimilar to what is uſually aſſigned to ruta baga; and preſume, that the

nutritive

nutritive ſubſtance contained in a ton of each, is not materially different. Even under the ſuppoſition, that fifty bolls, or ten tons only, were gained, ſtill the preference ought to be aſſigned to yams, on account of the reaſons already mentioned.

If potatoes are ever to be extenſively introduced as an article of fallow crop, it muſt be with a view of occupying the place of ruta baga, or as the means of carrying on live ſtock, after turnips are conſumed, till the graſs ſeaſon arrives. During the ordinary ſeaſon of winter feeding, neither potatoes nor ruta baga can be furniſhed to ſtock on the ſame terms with turnips; though, when turnips are gone, the next beſt reſource muſt be ſought after. This, in my opinion, can be gained with moſt facility by raiſing yams, which, as already ſaid, are not ſo ſhy in growing, do not require ſo much manure, and thrive on ſoils where ruta baga would not yield a root much exceeding a common ſized egg.

Though yams are not to be ranked in value with turnips as an article of winter feeding, it deſerves attention, that they may be ſucceſsfully cultivated on ſoils phyſically unfit for the former root. In fact, the greateſt crops of yams are procured from heavy lands; the ſoft kindly ſoils, generally conſidered moſt adapted to potato culture, being unfriendly to the growth, or rather to the productiveneſs of the variety which I have been recommending. I am,

Sir, yours, &c. A Rural Economist.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Thoughts on Regulating the Value of Labour.
By Sir George S. Mackenzie, Bart.

Sir,

In the note which you have made in reference to my letter of the 20th December laſt, I am ſorry to find ſome miſapprehenſion of the meaning of ſome part of it. To explain myſelf, is my chief object at preſent.

That the evil of the late unuſual advance in the price of labour is ſupported, in no inconſiderable degree, by the circumſtances of the country, cannot be denied; but that theſe circumſtances were *altogether* the cauſe of the evil, originally, or that they *alone* have been the means of ſuſtaining it, I am diſpoſed to doubt. The firſt increaſe of the wages of craftſmen (of whom, particularly maſons, we complain much more than of ordinary labourers) was excuſed by the laſt year of ſcarcity which this country experienced; and formerly, the price of labour, of every kind, was regulated entirely by the price of proviſions. No complaints were at that time made, on the preſumption, that when plenty again bleſſed the land, the uſual ſtandard for regulating the price of labour

bour would be again reſorted to. We were however diſappointed. And although ſome ſort of combination was evident, yet it was impoſſible to prove ſuch a combination as could be brought under the cognizance of the law. It alſo unfortunately happened, that there was a conſiderable demand for hands about the time when the ſcarcity ceaſed; and this demand being made by ſome of the moſt opulent proprietors, they were not aware of the miſchief their liberality would occaſion. I hinted in my letter, that the great undertakings already begun by Government in the Highlands, might be productive of ſome miſchief, if proper precaution was not uſed. The event has juſtified my apprehenſions; for our labourers already threaten to forſake us, if we do not comply with their demands. I have been told, that becauſe 1s. 6d. only was the wages given by the ſuperintendants of the Caledonian Canal, the workmen have threatened to leave it, or have actually left it. So much for the firſt paragraph of your note.

You obſerve, that I might have taken notice of the riſe in the price of wood. I intended, by the 'price of building,' to convey the price of every thing neceſſary for the completion of a farm-houſe and offices; and, not meaning to enter at length into the ſubject, did not notice each particular article required in the execution of ſuch erections.

Perhaps, when you obſerved that one year's rent of an eſtate is a moderate allowance for buildings over the whole, you did not perceive that my ſurpriſe, expreſſed at the beginning of my letter, was occaſioned by the whole rent being required for buildings on *one farm* only.

It is a common thing to allow one year's rent of a farm to the tenant for buildings; but I rather think the giving the whole rent of an eſtate to one farm, would be found ſomewhat inconvenient.

From the latter part of your note, a queſtion ariſes, which perhaps requires more able diſcuſſion than I can beſtow. Whether ought any reſtriction to be put on the value of labour? If ſome ſort of reſtriction was not neceſſary for the price of ordinary day labour, as we call it, that is, where workmen are paid for their time, and not according to the extent or uſefulneſs of their labour, I hardly ſuppoſe that the ſtatutes empowering the Juſtices of the Peace to regulate its value, would have continued ſo long in force, or be ſo uſeful as in many caſes they are found to be. This, however, may be truſting too much to the wiſdom of thoſe who framed theſe laws. The value of labour, I believe, may be generally in proportion to the difficulty of acquiring perfection in the art practiſed, and the time required to overcome that difficulty; to the demand for any ſpecies of labour, and to the price of the means of ſubſiſtence. The laſt of theſe is in a leſs degree concerned in the appreciation of ſuch kinds of labour as

as require ſtudy, than in that kind of labour where no ſtudy is neceſſary; but ſtill it has, and certainly ought to have, ſome degree of influence. What we complain of is, that workmen, in the firſt inſtance, reſorted to the price of proviſions as their reaſon for raiſing the value of their labour; but will not allow us to reſort to the ſame thing, in order to leſſen the value of their work. Here there is no reſtriction on labourers, but a very ſevere tax upon their employers. If labourers inſiſt on our adhering to one criterion, whereby to fix the value of their labour, ought their employers not to have a right to inſiſt on their abiding by what they themſelves have pointed out to regulate their wages? I think they ought.

Where the time of labourers is all for which they are paid, reſtriction is, in my humble opinion, neceſſary. I think alſo, that the work of maſons and carpenters, whoſe arts do not require either much ſtudy or much time in their acquiſition, ſhould be in ſome meaſure reſtricted in its price, by adhering to the price of proviſions for its regulation. I ſhould be much gratified, were ſome of your correſpondents, whoſe ſtudies and experience qualify them for the taſk, to take up this ſubject, and favour us with their reaſonings. It certainly deſerves ample diſcuſſion, and is worthy of attention from the cultivators of the ſoil eſpecially. I am, Sir, yours, &c. GEORGE S. MACKENZIE.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Information requeſted concerning the moſt expeditious Way of Taking up the Roots of Trees.

SIR,

I SHOULD eſteem it a ſingular favour if any of your correſpondents will take the trouble to point out a more expeditious method of extracting roots of large trees, which have been cut down within theſe few years bypaſt, and are of courſe quite freſh in the ground, than that commonly adopted, of digging round them with ſpades, and cutting every fibre by axes and mattocks, which is attended with conſiderable expence, and is beſides a very tedious operation.

I have heard of inſtruments for raiſing ſtones of immenſe weight from the bottom of deep rivers; but never ſaw any of them. Perhaps a ſimilar apparatus might be uſeful in the caſe I have taken the liberty to ſtate. I am, Sir, your moſt obedient ſervant,

Cupar-Angus. J.

BRANCH

BRANCH II.

Review of Agricultural Publications.

Letters addreſſed to a Noble Lord on the Manufactures, Agriculture, and apparent Proſperity of Scotland. Mundell & Son, Edinburgh. Longman & Rees, London. 1804. 55 pp.

Nations, like individuals, progreſſively advance from youth to old age; and to contemplate them in the ſeveral ſtages of growth, furniſhes ample gratification to philoſophers. Theſe ſages, however, from the imbecility of human nature, are often led to form miſtaken notions concerning the age and health of the *body politic*, and to conſider it, when in full health and vigour, and hardly arrived at manhood, as far advanced in years, or labouring under a galloping conſumption. Perhaps the author of theſe well written, but declamatory letters, has fallen into the error we allude to; at leaſt, if ſymptoms of indiſpoſition are to be recogniſed, they are evidently much exaggerated and miſrepreſented by him.

Not many more than twenty years ago, it was apprehended, and not without reaſon, by ſeveral well-meaning people, that the Britiſh nation was rapidly haſtening to ruin. Our Tranſatlantic dominions had recently ſeparated from us. Almoſt every one of the Weſt India iſlands had been conquered by our ancient and ſworn foe. Our Eaſt India poſſeſſions were in imminent danger, and the great Company, to whom the trade to that quarter was excluſively committed, were on the verge of bankruptcy. Our connexion with Ireland was ſuſpended by a thread. We were deſpiſed and inſulted abroad, and torn to pieces at home by internal diſſenſion. Under theſe circumſtances, it did not require much conſidence to prognoſticate, and apparently upon ſure grounds, that a dreadful criſis was approaching, and 'that the ſun of Britiſh glory was going to ſet for ever.' We have cauſe to rejoice that ſuch predictions remain unfulfilled; nay more, that Britain, at no period on record, preſented a healthier aſpect, or promiſed a longer political life, than at the preſent moment. The connexion with Ireland is ſecured upon a permanent footing. Our Eaſt India poſſeſſions are augmented to triple their former ſize, while our enemies in that quarter, who formerly threatened deſtruction to the Britiſh power, are completely overcome. The public

public revenue is augmented in a fourfold degree. Unanimity prevails at home, and the government is reſpected abroad.

At a time when inconteſtible evidences of public proſperity are to be found on every hand, it cannot fail to excite ſurpriſe, that a writer, certainly gifted with many talents for diſcuſſing political ſubjects, ſhould have brought forward ſuch a picture of national diſeaſe as is ſketched in theſe letters. What is ſtill more ſurpriſing, he reſtricts the dark lines of the picture to the northern part of the iſland, while, according to his deſcription, every branch in the ſouthern ſide ſhows a green and verdant aſpect. If luxury and ſpeculation are evils which will eat up our ſtrength, and tumble us into the grave, ſurely theſe evils prevail as extenſively in South Britain, as with us. Luxury, taking the word in the ſenſe in which it is generally underſtood, is a neceſſary concomitant of wealth, and ſo is ſpeculation of trade. In retail trade ſpeculation may be avoided; but where large wholeſale dealings are carried on, ſpeculation, in one way or other, unavoidably takes place.

But leaving theſe general topics to the conſideration of others, in whoſe department they are more aptly ſituated, we ſhall examine a few paſſages wherein the ſubject of agriculture is noticed. According to our author, 'The central point—the pivot on which our landowners, with all their wealth, and our citizens with all their folly, whirl round, is agriculture.'

On this ſubject it is difficult to preſent our author's ideas in a correct manner. P. 12. he ſays, 'Certain it is, that to the advancement of our manufactures for theſe laſt twenty years may be aſcribed, if not the rapid improvements in agriculture, at leaſt, in a great degree, the uncommon riſe in the value of landed property.' P. 13. 'That the ſpeculation of our manufacturers produced a ſpirit of ſpeculation in our farmers, there cannot be a ſhadow of doubt:' And, in p. 43. 'It would be an inſult to your Lordſhip's penetration to recapitulate what has been already brought forward, to prove inconteſtibly, that on the ſtability of our preſent ſtate of agriculture depends our preſent greatneſs.' What is all this, but arguing in a circle? To the ſucceſs of manufactures, improvements in agriculture are attributed. The ſpeculations of the manufacturer encouraged a like ſpirit in the farmer; and now when agriculture is improved, upon its ſtability depends the proſperity of the whole nation. How can this be, if it was the advancement of manufactures that firſt raiſed the value of landed property?

Speaking of Scotch country gentlemen, the following caricature, p. 20, is given:

'The *country gentleman*, who not many years ago reſided conſtantly on his eſtate, ſuperintended the culture of his paternal fields, and by his example ſupported a ſtation, which united conſequence with economy, and utility with rank, is, I am afraid, no longer to be found. If we find him in the country at all, it muſt only be during a few weeks in certain ſeaſons, regaling his faſhionable and gay friends with ſplendid magnificence, or in a perpetual round of viſits, where he and his faſhionable family are regaled in turn. But it is not in the *country*, my Lord, that we can hope to find this new planet moving in its proper orbit;—to trace its courſe, and contemplate its uncommon ſplendour to advantage, we muſt direct our eye to another hemiſphere. From the ſimple and neglected haunts of rural quiet, we muſt turn to more brilliant, more dazzling, regions of modern attraction—to ſome watering or public place of reſort, where its unobſcured beams diffuſe radiance around—to a trip acroſs the Britiſh Channel, on a viſit to our magnanimous invader; or to the annual faſhionable profuſion of our diſſipated and luxurious capital. It is there, my Lord, that we muſt now expect to find our plain reſpectable Scotch country gentleman ſuddenly transformed into the daſhing, modiſh, elegant man of faſhion and extravagance, enjoying the fruits of his lately acquired opulence; indifferent to every rural concern, ſave the collection of his *treble* rent-roll, and attentive to nothing but the eſtabliſhment of his ſplendid houſehold, the elegance of his retinue, the decoration of his perſon, and the delicacies of his table.'

Theſe things, however, are better ordered in England. Our author, p. 30, ſays,

'To thoſe who have had opportunities of mingling with people of various deſcriptions in England, and who have marked their manners, ſtudied their propenſities, and appreciated their tendency, the apparent opulence and proſperity, which we ſee there extended around us, ſo far from exciting alarm, produce, on the contrary, ſenſations of ſafety, ſatisfaction, and joy. While, for inſtance, we indulge the delighted eye with rural proſpects of plenty, induſtry, and univerſal comfort, we perceive nothing to impede this placid current of pleaſure; nothing ſtrained, or extravagantly ambitious, to draw aſide the gratified mind from a contemplation of what is judiciouſly moderate, to what is prepoſterouſly vain. We ſee, on the contrary, every thing in its proper place, moving regularly in an even, ſteady, undeviating courſe; the landed proprietor enjoying his uſual annual emoluments in plain, hearty, Engliſh hoſpitality; the tenant, cultivating his productive farms, neither diſturbed with apprehenſions of increaſed demands from his landlord, nor racking his fermenting brain with idle and ambitious plans of ſudden proſperity. From theſe calm and peaceful ſcenes of rural uniformity, ſhould we turn to others more mixed and buſtling, we ſhall ſtill find them not leſs gratifying. In all the hamlets, villages, and ſmaller towns, removed to any diſtance from the great capital of vice, and our great manufactures of corruption, we fail not to meet with an uniform conduct

duct of propriety, decency, and judicious economy,—the very reverse of pervading luxury and refinement.'

It does not become us to say what degree of truth or justice there is in these two passages; but we know very well, that country gentlemen in both kingdoms are equally fond of a town life in winter; nor do we wonder at it, when we consider how little they have to engross their attention at home in that dull season of the year. A stranger would be led to believe from these letters, that the æra when country gentlemen began to take up their winter residence in great cities was cotemporary with the introduction of improvements. With regard to the 'decency and judicious economy' of the lower ranks in England, we believe the immense load of poor's rates affords sufficient testimony, that such are not one whit more frugal and industrious than their brethren in this country.

We perfectly agree with the author, that the farmer at this moment stands on very tickliſh and precarious ground; but our opinion is founded on very different reasons from those which seem to have influenced him. The value of produce is confessedly below that of money; hence a continuance of the present rates for any considerable time must necessarily bear hard upon agriculturists. We are far from thinking, that speculation occasioned the rise of rents which has taken place within the last ten years. In fact, the first great advance upon land appeared in 1795, when markets for all sorts of grain were uncommonly high. This advance was still farther augmented by the prices of 1799, 1800, and 1801; though undoubtedly those, who calculated (if any such there were) upon these prices being lasting, acted very foolishly. Those who argued from the depreciation of money, seem to have had at least reason on their side. They found that a shilling would not command so much of any other commodity at market as formerly; and therefore very fairly inferred, that its value would be proportionally reduced when offered in exchange for grain. That the inference, however plausible, has proved fallacious, is unquestionably true. In fact, the price of grain, like that of every other bulky and perishable commodity, must be regulated at market, according to the quantity thereof presented, and not by the plentifulness or scarcity of money.

We observe some very illiberal sentiments concerning the distilleries, and the credits received by farmers at petty banks. On these matters our author displays much ignorance. He speaks of the distillers ceasing to work in 1797, whereas, except a short cessation in 1795, they carried on to spring 1800, and opened again in November 1801. With regard to farmers keeping up wheat when it sold at 3l., and selling it afterwards at 30s. or 35s., this is an old song, which has been sung so often as to be-

come out of fashion. Surely it was a bad arrangement, to class such among the causes which influenced the rise of land, and every article of agricultural produce.

On the whole, we are entirely at a loss to ascertain the object of these letters. If they were meant in support of the agriculturist, it would have been well to have mentioned, along with the high rent paid to proprietors, the *ex post facto* advance thereupon, imposed by the legislature, which, our author must allow, was laying an additional burthen upon a horse already overloaded. In fact, we can only discover a well wrote declamation against luxury and extravagance, which, with a few alterations, would suit any country where money is plentiful, or where manufactures and agriculture are prosperous. Great and numerous as the evils are said to be with which Scotland is afflicted, still a single cure or remedy is not pointed out. Does the author mean that improvements should be discarded and manufactures suppressed, in order that 'the unsatiable love of gain' may be checked? If the British nation, or rather the Scotish nation, 'love money, and despise morals,' then we are free to say, that every quarter of the country presents evidence at this moment sufficient to refute the aphorism with which our author begins, and the assertion with which he concludes these letters. N.

Hints to Agriculturists. By William Dickinson *Esq.*
Printed at Newark, 1803.

AGRICULTURE is a subject as little secured against the intrusion of ignorant and arrogant pretenders, as any other art or science. This reflection we were led to make in casting our eyes upon this pamphlet, which we had intended to review some time ago, but which had fallen into neglect from its intrinsic insignificance. As, however, it is equally conducive to the advancement of real knowledge, to expose and to check presuming ignorance, as to foster and bring forward diffident merit, we therefore resume our original purpose.

We observe, upon the opposite side of the title-page, a publication announced by this same author, upon the antiquities of Nottinghamshire and neighbouring counties, and can hardly avoid being of opinion, that the author (however much *invitâ Minervâ*) has been tempted to intrude himself into the popular subject of agriculture, solely with the view of attracting attention to his other work. We readily admit, that a writer may be qualified to acquit himself respectably upon a subject which he has

has ſtudied, and which he underſtands, although he ſhould be found to make a very ſorry figure in rathly attempting another, in which he is not in the leaſt converſant. Otherwiſe, were we to judge of the qualifications of the antiquarian of Nottingham, by that ſlenderneſs of capacity diſplayed in his *Hints to Agriculturiſts*, we would ſorely fear that his *Antiquities* would ſpeedily become antiquated, and remain a dead ſtock upon his hand. The truth is, the out-of-door operations of agriculture can contain no ſecrets or *myſtery*, like thoſe of manufacture; and every one (particularly in proportion to the ſuperficiality of his knowledge) deems himſelf capable to judge of, or write upon what, he imagines, he ſees practiſed daily under his noſe. From the leſs frequency, too, of ſocial intercourſe which agricultural operations can admit of—from the diſperſed ſtate of ſituation in which they muſt neceſſarily be carried on, ariſes a want of fluency in converſation among agricultural practitioners, which is apt to be attributed, moſt fallaciouſly, to a greater hebetude of intellects; ſo that every pert, glib-tongued ſhopkeeper, holds himſelf qualified to give the leſſons of a maſter to the more awkward clod-like farmer, even as to the buſineſs of his own peculiar profeſſion. Hence the numberleſs annual donations of moſt ſage advice to practical farmers, moſt charitably and gratuitouſly communicated in our newſpapers, by ſuch town cits as have chanced to have been traverſing the country. Whether the author of the *Hints* may fall under the above deſcription, or whether (if he really poſſeſſes the experience he would ſometimes lay claim to) he may not have been merely an *experimenter in flower-pots*, of which kind of experiments he has recorded a few—theſe are points, upon which, though we might conjecture, we are not in a ſtate competent to decide. Certain, however, we are, that no farmer, who reads theſe *Hints*, ſhall find from the lecture, that one ſingle hint has been given by which he ſhall be able to profit in any ſhape.

The author ſets out with declaring himſelf both an antitheoriſt and a theoriſt. He condemns theoriſts as proceeding upon chemical or mechanical principles which the practical farmer cannot underſtand. He equally condemns thoſe who merely detail practices without any appropriate theory, as leading to empiriciſm in agriculture, *i. e.* to practice without principles, or the indiſcriminate application of ſpecific *noſtrums* to all caſes equally without diſtinction.

'Science is grateful to the mind of every man, and is never rejected but where the real or ſuppoſed difficulties of obtaining it, deter him from the attempt. We have many works of genius and merit, of la-

bour and celebrity, on the subject of agriculture: so numerous indeed are they, that it might be supposed there could be no room left for new information, and still less necessity for again insisting on the old. But the objections which have been made to them, are almost commensurate with their quantity. Where they promise to teach agriculture as a science, they are lectures on chemistry, on mechanics, or on mineralogy. Under the title of manures, they are, in fact, treatises on carbon, oxygen, and azote: professing to consider implements in husbandry, they turn out to be essays on levers, axes, and rotatory motion: and where we expect to find a plain and simple examination into the properties of soils, we are surprised with an elaborate investigation of phosphoric acids, metallic oxydes, manganese and zinc.

'Where, according to the modern practice, their only object is to report experiments, it is to be lamented that they too frequently present a monotonous detail of facts without observation, or of observations without reasoning; of advice without argument, or of argument without conclusion.

'Treatises, such as these, may casually and individually amuse, but cannot generally instruct or diffuse benefit. The former are only calculated to excite agricultural empiricism; the latter offer no encouragement to rational experiments founded on analogical deduction.'

Having thus, like Drawcansir in the Rehearsal, cleared the stage entirely of the rubbish of all other books of agriculture, both ancient and modern, he brings forward his own proposal after the manner of Mat, in Prior's Alma:

> 'Now, to bring things to fair conclusion,
> And save much Christian ink's effusion,
> Let me propose an healing scheme,
> And sail in middle of the stream.'

'It shall be the purpose of the few following pages to steer a middle course, borrowing only from philosophical research certain acknowledged *data*, and, without embarrassing the mind with subtle disquisitions, merely apply the conclusions obtained, in such a manner as may lead the agriculturist to a regular *system* of experiment; not to detached and insulated deviations, or capricious vagaries.'

Our author, like a skilful General who leaves nothing unsubdued behind him, commences his system *from the very egg*.

'It will be readily conceded, that, to produce the fruits of the earth in the greatest excellence, and the most uniform abundance, is the grand aim and object in agriculture; the means of accomplishing this event the most interesting subject of speculation to the agriculturist.

'Earth, the immediate and ostensible parent of vegetation, merely as earth, has been designated by the name of a *passive principle*, a *caput mortuum*, and by various other similar appellations; all, however, signifying nearly the same thing, and all tending to nearly the same conclusion;

cluſion; a concluſion, indeed, which has been verified by a thouſand arguments, and aſcertained by a thouſand experiments, and which amounts, in plain language, to nothing more than this—that earth, deprived of air, water, and elementary fire, commonly called heat, will not produce vegetation.

'We may then, I think, take for granted this poſition, that vegetation is produced by air, water and fire, operating, in ſome way or other, mediately or immediately, on the earth!!'

The water, the fire, and the air, for the part of the vegetable ſtanding above ground, he obſerves, are furniſhed to our hand; but to get air adminiſtered to the ſeeds ſown, or roots growing under ground—*hic labor, hoc opus eſt.* The ſpecies of air required for vegetation, he obſerves (p. 12.), has been variouſly deſigned, 'but is now moſt commonly known by the appellation of *fixed air*, and, more philoſophically, by that of carbonic acid. In this conſiſts all, or nearly all, the doctrine of manures and the myſtery of vegetation.' * As to the mode of obtaining and applying this carbonic acid (pages 14. 15.), he modeſtly declines aſſerting poſitively, 'that it is produced by fermentation alone:' he thinks, however, he may poſitively aſſert, 'that it is generated by fermentation;' and is convinced himſelf (which undoubtedly is moſt important information), and wiſhes to impreſs it upon his agricultural neighbours (which is highly charitable), 'that in whatever proportion any ſpecies of manure will produce fermentation in the earth to which it is applied, in the ſame, or (obſerve the modeſty with which the victorious concluſion is puſhed) nearly the ſame proportion, it will, generally ſpeaking (ſtill modeſtly cautious) produce vegetation.'

* That this air, applied to vegetables above ground, is highly conducive to vegetation, has been aſcertained by experiment. The electrification of plants has, in like manner, been found alſo favourable to their growth. Our author, however, (and indeed all theoriſts, aiming at extreme ſimplicity of ſyſtem), ought to be reminded, that a principle, found powerfully productive of a given operation, in its ſimple uncompounded ſtate, may be productive of very different effects, when adminiſtered in a ſtate of compoſition with other principles. Though fixed air, applied to growing vegetables, and inhaled by the abſorbent veſſels of the leaves, promotes their growth, it by no means follows of courſe, that it would produce the ſame effect when combined with lime or other alkalis. Though a fiery ſhower, adminiſtered from a watering pan in the hand of the gardener, ſtanding upon an inſulating ſtool, and highly electrified, is found extremely conducive to vegetation, it by no means follows that the watering-pan, the proximate cauſe, cut in pieces—or the glaſs globe of the electrical machine, the remote cauſe, when comminuted to powder—would either of them conſtitute an efficient manure.

According, then, to the theory of this notable theoriſt, (who at ſame time is no theoriſt), the great principle of vegetation is *fermentation*, through the mean of the production of *fixed air*, *alias* carbonic acid; which is the true *pabulum vitæ* to the vegetable creation; and the only one, at leaſt, which, it would ſeem, human induſtry can ſupply.

Every *dabbler in chemiſtry* (to uſe an expreſſion of our author) knows that all pure alkalis are of a cauſtic nature, and that during this their ſtate of purity and cauſticity, they greedily abſorb aerial, *alias* carbonic acid, from the atmoſphere, till they are ſaturated and neutralized, or rendered mild; that the attraction, however, betwixt alkalis and this carbonic acid is ſlight, in compariſon with the ſuperior attraction they have for other acids; and that, upon expoſing, therefore, mild alkalis, *i. e.* alkalis that have abſorbed carbonic acid, to the action of acids for which they have a ſuperior attraction, the carbonic acid is diſlodged, and the other acid taken up in its room; that the carbonic acid, (which, in combination with the alkali, had remained in a fixed ſtate), upon quitting it, reaſſumes its aeriform nature, and in eſcaping forms a hiſſing noiſe, or an ebullition, if the acid applied to diſlodge it is in a liquid form, whence heat too is generated. Vulgarly, this ebullition, hiſſing and effervescence, has been deſigned *fermentation*; and accordingly limeſtone or marl are ſaid, vulgarly, to ferment with vinegar or other acids: But even though the word *fermentation* ſhould be retained in compliance with common uſage, we could hardly have conceived that even the moſt ſuperficial dabbler could have been capable of confounding this ſort of fermentation with thoſe properly deſigned fermentations, *viz.* the *vinous*, the *acetous*, and the *putrefactive*.

That what our author had in view (if indeed he had any definite ideas at all, which we very much doubt), in eſtabliſhing his *fermentation* as the great principle of vegetation, through the production of fixed air, was merely the ebullition and effervescence above deſcribed, and by the vulgar called *fermentation*, is evident, not only from the inſeparably characteriſtic *modus operandi* aſcribed to it, being *the production of fixed air*, but alſo from a variety of particular paſſages in the pamphlet, in which this ebullition or effervescence is particularly deſcribed as conſtituting his fermentation; but our bounds will allow us only to make the following references—page 18. foot note; page 21. (in the midſt of a moſt abſurd diſſertation on lime *); page 23.; and page 34. at top.

The

* Every dabbler in chemiſtry knows that the effect of burning is to expel the carbonic acid from lime, after which, the lime is in a purely cauſtic

The great bulk of the pamphlet is taken up in illustrating and confirming this most luminous, and certainly most compendious theory,

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caustic alkaline state; in which state, like other alkalis, it greedily absorbs water. The effect of the application of water, whether poured on by man, or absorbed from the moisture of the atmosphere, is, to make the burnt limestone crumble into powder with the generation of heat; and this internal commotion of parts, the author might, with equal propriety, have designed *fermentation*, as the ebullition and effervescence already mentioned to which he has given that designation. So long as lime remains in its pure alkaline caustic state, divested of carbonic and of every other acid, it is, like all alkalis in the same state, in readiness to absorb *quietly*, and without any symptoms of our author's *fermentation*, any acid that is applied to it—excepting indeed the *fermentation* of *crumbling into powder*, which the water, in which the acid applied may be dissolved, will occasion. Lime, however, cannot remain long in its caustic alkaline state, but is speedily neutralized and rendered mild (or, in fact, it reverts to its original state as limestone), by reabsorbing the carbonic acid that had been expelled by burning, greedily taking it in, in proportion to its exposure of surface: And in this state alone is it susceptible of our author's *fermentation*, *i. e.* the ebullition and effervescence occasioned by the escape of the carbonic acid in an aeriform or gaseous state, when expelled by another acid having stronger affinity to the alkali of lime.

What, then, does our author understand by his distinction of lime (page 9.) into two kinds; the one, 'soft, mild, and lixivial,' (lixivial, according to our interpretation of English, implies a fluid in which any salts are dissolved); the other, 'dry, acrid, caustic?' We know that limestones differ according to the quantity of the foreign admixtures they contain of sand, or clay, &c.; but we certainly conceive it as essentially characteristic of all lime *qua lime*, to be *acrid* or *caustic* (which are the same thing), when new burnt; and to be *mild* or *soft* (which we understand to imply the same sense), so soon as neutralization takes place by saturation with an acid—whether by the fixed air absorbed from the atmosphere, or by any other acid applied.

What does he mean by telling us (pages 21—23.), that great care must be taken, in liming land, to proportion the quantities of the alkali to the acid, to secure the greatest possible fermentation, and to avoid the excessive preponderance of either, in fear of defeating this intention,—but that the precise equilibrium, which chemical nicety would seem to require, is not essentially necessary in practice; because, 'even if the quantity of lime used be at almost any point below extreme profusion, its own powers of absorption will precisely apportion the attraction of atmospheric acid, and regulate the process of fermentation?' After our previous observations above, our readers can judge for themselves. We certainly, in the course of our reading, have hardly met with such bulk of ostentatious absurdity wrapt up in such small volume.

theory, by attempting to point out the effect of said *fermentation* produced by various manures, as lime, *yard muck*, excrement human and brutal, marl, blood, urine, bones, scrapings of roads, sawings of timber, together with flesh, fish, and sea weed. Here, however, the ignorant author allows the change continually to be put upon him by the similarity of sounds. If he can only find that the word *fermentation* is ever applied to the alterations which any of these bodies undergoes, no matter whether the vulgar or scientific fermentation; immediately his ebullition or effervescence, disengaging air, occurs to his imagination; the production of which air he has asserted to be the true vegetable *pabulum*.

> 'Thus in the London 'prentice ear,
> The bells sound Whittington Lord Mayor.'

If carbonic acid, too, can be properly mentioned as interfering, in any manner, in the changes of such bodies, the effect is the same upon our author;—here is my *pabulum*—here, therefore, must there be a beneficial effect upon vegetation. Accordingly, whether a mild alkali, coming in contact with an acid, sends out its carbonic acid, or whether a caustic alkali absorbs into itself the carbonic acid—still, as this acid, *alias* fixed air, is somehow concerned in the transaction, vegetation must of necessity be promoted; for this air is the veritable *pabulum*. Probably the Nottingham vegetables are so clever and alert, that they can even catch a refreshing gulp of this air *in transitu*; whether in its passage *to*, or its passage *from*.

Perhaps our readers may think that we have allotted too much space to the dissection of such a *jejune* performance. In the author's own words (page 42.), 'the reader's curiosity is perhaps, by this time, sufficiently disappointed, even if his patience be not entirely exhausted.'

We shall close our remarks, by just observing that we would not have dwelt so long upon such a futile subject, were it not that these Hints carry with them an imposing appearance, that might mislead the unwary to bestow attention, where they can reap no possible information upon any one point. The author has formed to himself a Johnsonian, sonorous style; he seems to have obtained that smattering of the sciences connected with his subject, which has initiated him into, and enabled him to mouth, with a sort of mock dignity, the scientific phrases; and without such an analysis, he might have passed for some time *incognito*. For it is not always that

> 'Fools are known for looking wise;
> As men shoot woodcocks by their eyes.'

We had almost forgotten one remark that occurred in the perusal, but which was suggested anew by the pamphlet happening

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to lye open before us as we concluded. In page 34. at top, the author ſpeaks of a *fixed volatile alkali*. We have certainly heard of a *fixed alkali*, and of a *volatile alkali*, characterized as different by their reſpective fixedneſs or volatility; as we have alſo heard of hard water and of ſoft water; but we never before have heard of a *fixed volatile alkali*, more than of a *hard ſoft water*.

The work is dedicated (with or without permiſſion, is not ſaid) to the Marquis of Titchfield, Preſident, and the other Members of the Newark Agricultural Society.

C.

Statiſtical Survey of the County of Cavan, with Obſervations on the Means of Improvement: Drawn up in the year 1801, *for the Conſideration, and under the Direction of the Dublin Society.* By Sir CHARLES COOTE, Bart. Dublin: Printed by Graiſberry & Campbell.

IRELAND is a country which, at preſent, has many claims upon our attention. From its peculiar circumſtances, we can hardly be able to regard it with indifference, while its cloſe connexion with our own iſland engages our ſelfiſhneſs, as well as our ſympathy. The moral and political condition of the people muſt intereſt the ſtateſman and philoſopher; while the face of the country, and its ſtate of improvement, equally demand attention from every one who deſires the proſperity of agriculture. It is the laſt of theſe topics which properly falls within our province. Ireland, as an agricultural country, has many phyſical advantages; but the moral obſtacles, which have hitherto impeded improvement, will not, we fear, be ſoon removed. From the natural advantages of that country, and its long and intimate connexion with Britain, it might have been expected to have made conſiderable improvement; but it is ſtill far behind many parts of this iſland which have been leſs favoured by nature.

We rejoice to ſee Agricultural Societies formed, and Agricultural Surveys executed in Ireland, as both indicate an increaſing attention to the moſt uſeful of all arts, and may contribute ſomething to its advancement. We wiſh our brethren, over the water, all ſucceſs, and ſhould be happy ſoon to receive leſſons from them that are at preſent ſo far behind us. There is very much to be done, however, before they ſhall rival us, and much that Agricultural Societies cannot effect. Capital muſt be created, and employed in cultivating the ſoil; property muſt be rendered more

ſecure;

ſecure; the buſineſs of the farmer muſt be ſeparated from that of the mechanic; and habits of ſobriety and induſtry become more general, before agriculture flouriſh. It will require time to accompliſh ſuch important matters, and we are almoſt tempted to imagine that ſome radical change in the ſtate of ſociety will be previouſly neceſſary.

The county of Cavan is not one of the beſt parts of Ireland, and, in the volume before us, it certainly does not appear to the greateſt advantage. This work is not calculated to give us a favourable opinion either of its author's abilities, or of the diſtrict which he has ſurveyed. Situated in the province of Ulſter, at an equal diſtance from the Iriſh Sea and the Atlantic Ocean, it contains 301,000 plantation acres, and about 90,000 inhabitants. The land is divided by the author in the following manner:

	Acres.
Arable lands, paſture and meadow	267,500
Rivers and lakes	3,500
Woods and plantations	3,000
Roads, towns and villages	3,000
Mountain, bog and waſte	24,000

The average rent is ſtated to be fifteen ſhillings *per* acre; and this, we are informed, is nearly double what it was twenty years ago. This would ſeem to intimate a conſiderable degree of improvement within that period. What muſt have been the condition of the country previous to it, we are at a loſs to conceive.

The county of Cavan is conſiderably elevated, and, throughout, diverſified with hill and dale. From this circumſtance, together with its proximity to the Atlantic and Iriſh Sea, we may naturally expect the climate to be uncertain, cold and boiſterous. We ſhould expect an exceſs of moiſture, too, though the author ſeems to intimate the contrary. The mountainous diſtricts are, for the moſt part, appropriated to the grazing of young cattle; while the low lands are in conſtant tillage. Perhaps the moſt important general improvement which this county could receive, would be to apply it principally to paſturage. This, however, is impoſſible, while it is parcelled out into farms, as they are called, of nine acres each.

We ſhall not enter into any particular detail of the matter contained in this work, as it could be little intereſting to the bulk of our readers; and, with regard to an analyſis of the volume itſelf, we deem it impoſſible. The author communicates ſome information which it might be worth while to know, and makes ſeveral well-meant and ſenſible remarks, but they are ſcattered with ſuch irregularity, and buried under ſo much rubbiſh, that

we

we cannot undertake to dig them out, and present them in any systematical order.

In the first six chapters, we have a geographical description of the county, accounts of the state of property, buildings, mode of occupation, implements, enclosing and fences. In these chapters much miscellaneous matter is introduced, many digressions are made, and many very needless repetitions. The next five chapters contain a particular account of the eight baronies into which the county is divided. The last five chapters are devoted to rural economy, political economy, general tables, farming Society, and a conclusion. Our readers will easily perceive, that, by his method, if method it can be called, the author has unnecessarily perplexed his subject. By giving a general view of the county, and a particular one of each barony, the same topic has been introduced eight or nine times, which, besides tiring and disgusting the reader, has rendered the work far larger than the matter contained in it required.

A pretty just idea may be given of the state of agriculture in this district, by merely mentioning that the largest class of farms average thirty acres, and the least seven; but that, as the latter bear a proportion of ten to one to the former, the medium of the whole may be taken at nine. The mode of cultivation, in what our author considers one of the best managed baronies, is, 1. Potatoes in lazy beds; 2. Potatoes, the beds where the trenches were the preceding year; 3. Part of the land flax, the rest oats, and these continued for two or three successive crops; the land afterwards abandoned to grass—we say abandoned, for it is neither cleaned, nor sown with grass seeds. This system needs no comment. The state of the peasantry in the mountains of Cavan is represented as truly deplorable. 'In civilization,' says the author, p. 21, 'they have made no proficiency; for the very wealthiest of these mountaineers have no better bed than straw, nor is a bedstead to be seen amongst them, but they indiscriminately herd together with the hogs and all the domestic animals of the hovel.' This description is introduced with a severe, but just reflection upon the proprietors of those mountains. 'As to reclaiming of these mountains, which would return such a fair and honourable income, they have not the remotest idea; and it is astonishing to see with what peculiar care they preserve their game on these extensive wilds, without the least regard to bettering the condition of their tenantry, whose state of uncivilization is, indeed, a pointed reflection on the supineness of their lords.' These proprietors are evidently as inattentive to their own interest, as they are devoid of benevolence. From the size of farms, and mode of cultivation prevalent,

valent, it is evident that the condition of none engaged in agriculture as a profeſſion can be very comfortable. The author tells us, indeed, that the ſubſtantial farmers, in one place, have good family houſes; and that, in another, neat and commodious houſes are building two ſtories high, with every neceſſary apartment. Theſe are built at no leſs a coſt than 60l.; which, he adds, 'is quite too much!' We ſhall leave our readers to form their own opinion of a ſubſtantial farmer, where the average of the largeſt farms does not exceed thirty acres, and of a commodious farm houſe, which is quite too expenſive at 60l.

The leaſes in this county are generally granted for twenty-one years, and a life, or three lives, or thirty-one years. To the firſt and ſecond of theſe we have ſtrong objections. Experience ſhows that every leaſe, the duration of which depends upon ſuch an uncertain thing as human life, is unfavourable to improvement. Whether the term be one life, or three, or thirty, there muſt be a period, during which the fear of loſing will withhold the means, even of ordinary increaſe; and the ground muſt be injured. No leaſe therefore ſhould be for a life, or lives, merely; and if for a life, and a definite period, the definite period ſhould be laſt. The third ſort of leaſes is certainly the beſt; though even this, taking a liberal view of the intereſt of landlord and tenant, is perhaps exceptionable: unleſs where land is in a very unimproved ſtate, and demands the outlay of much capital, thirty-one years may be too long.

The uſual leaſes in Cavan contain ſeveral clauſes, which we cannot but conſider groſsly abſurd. The proprietor reſerves to himſelf the right of looking after game; the tenant is bound to pay all taxes impoſed, and to be impoſed; there muſt be no alienation of leaſe, under penalty of double rent; no paring or burning, &c. &c. It does not leſſen the injuſtice or abſurdity of theſe clauſes, that they may be found in leaſes which were not manufactured in Cavan. We have not leiſure to enter into an examination of theſe points at preſent, but find no difficulty in laying it down as a general principle, that good policy, as well as juſtice, requires the holder of a leaſe to have as complete and excluſive power over the premiſes, during his occupancy, as if he were proprietor, and only be prevented from doing what might leave the property in a worſe ſtate than he found it. Any thing ſhort of this, muſt reſtrain and embarraſs the tenant in his exertions, and prevent him from reaping the full benefit of his capital and talents. We were ſurpriſed to find the author, whoſe principles ſeem not to be generally illiberal, lamenting that ſome of the above clauſes are not ſtrictly enforced.

The author introduces ſome doctrines, to which we find ourſelves

ſelves by no means diſpoſed to ſubſcribe. The abolition of fallow ſeems to be a favourite idea; he introduces it at p. 19. and again at p. 226. Among other reaſons which he aſſigns for his favourite doctrine, he alleges that the ground will not be injured by too much expoſure to the atmoſphere. 'A very eminent agriculturiſt,' ſays he, 'aſſerts, the more that the ſoil is ploughed in ſummer, the more is the vegetable food exhauſted.' We mean not to enter into any controverſy with this eminent agriculturiſt, but ſhall only ſay, that we generally expect the beſt crops, when our fallows have been moſt completely wrought; and this ſame expectation or prejudice perhaps is founded, we imagine, on experience. The author ſeems to have thought of fallow, for no other purpoſe, but that of reſting the land: 'We will find,' ſays he, 'by introducing intermediate vegetable crops, we entirely aboliſh the uſe, or rather the abuſe of fallow, which the moſt celebrated writers on agriculture, and the beſt farmers, now entirely condemn.' We know not what he means by vegetable crops; the crops, with which we are acquainted, are all vegetable. But, was the author really ignorant that even good farmers ſometimes think fallow neceſſary for cleaning land? To contend againſt it as neceſſary only for reſting the land, is to combat a man of ſtraw.

The author expreſſes himſelf in ſtrong terms, too, on the numerous diſadvantages of broadcaſt, and pronounces it to be high time that it were expelled for ever. We venture to predict, that he ſhall never ſee this happy revolution in agriculture accompliſhed. Does he ſeriouſly think that drilling could be advantageouſly introduced for all crops in the 'ſtiff brown clays' of Cavan, for inſtance? It is ſurpriſing that even ſenſible men ſhould ſo often ſuffer themſelves to be miſled by theory, and found general rules upon particular and local inſtances. Becauſe, upon ſoft and pliable ſoils, drilling may be preferable, ſhall we conclude that it ought to be practiſed likewiſe on the moſt hard and obdurate? We might as well inſiſt, that armed rebels ought to be treated with the ſame gentleneſs as peaceable and loyal ſubjects.

We find no portion of this work ſet apart for diſcuſſing the obſtacles to improvement, but only occaſional facts and remarks relative to this ſubject, which deſerve attention. The county of Cavan cannot be ſaid to ſuffer from any tax directly on land. The only burden of this kind is a ceſs, which does not exceed 3½d. *per* acre; but it is laid on in a manner ſomewhat curious. The county is divided into 8000 carvaghs, and the ceſs is laid on at ſo much *per* carvagh; though we are told (p. 221.) that ſome of theſe contain thirty acres, others not more than five, and no material difference in the quality of the ſoil. Human ingenuity could

could ſcarcely deviſe a mode of taxation more groſsly abſurd, or more palpably unjuſt.

Tithes ſeem to be a conſiderable evil in this county, both from the principle by which they are laid on, and the manner in which they are exacted. Land in tillage is titheable by the acre; meadow land pays no more than 6d. for what is in one perſon's poſſeſſion (and we ſuppoſe in one field), were it a thouſand acres: This is a mode of tithing for which no argument can be offered. The tithes, it would ſeem, too, are exacted with conſiderable rigour: This is not to be imputed to the clergy, who, in fact, are not the collectors, but to a kind of animals called proctors, who have farmed the tithes, and, no doubt, wiſh to make the moſt of their bargain. The author ſpeaks with warmth on this ſubject, and we give him credit for his feelings; but he is not aware, perhaps, of the cauſe of the evil. The truth is, the clergyman knows how unpopular tithes are, and what riſk may ſometimes attend the collecting of them: he is willing, therefore, to diſpoſe of this dangerous property at a very inferior value. The proctor, impelled by intereſt, and unreſtrained by any motives of delicacy, levies the tax with rigour. Thus, the occupier of the land is oppreſſed, and the clergyman enjoys not the legal fruit of his labours.

The ſmall ſize of farms, and their being generally occupied by perſons engaged in ſome other employment, muſt be regarded as preſenting a powerful obſtacle to improvement. Agriculture cannot proſper where it is not followed as a ſeparate employment, and where one perſon does not poſſeſs as much land as may furniſh occupation to himſelf, without manual labour, and ſufficient ſupport to his family. No perſon could farm, in the county of Cavan, to a ſufficient extent, without turning out perhaps a hundred of their ſmall tenants; and he muſt be a bold man, indeed, who, in the preſent condition of Ireland, ſhould undertake to bring ſuch a neſt of hornets about his ears.

We have always been of opinion, that the maſs of the Iriſh people can neither be proſperous nor happy, till ſome effectual means are employed to inſtruct them. We coincide entirely with the author in his ſentiments on this ſubject; and, from his ſtatements, it is manifeſt, that conſiderable blame is imputable ſomewhere. Very ample funds have been originally ſet apart in ſome places for maintaining ſchools, which are almoſt totally neglected. Do they, whoſe duty it is to direct ſuch matters, think, like ſome other great men, that the common people ſhould be kept as ignorant as poſſible? Or do they regard ſuch affairs as unworthy of their notice? Ireland has furniſhed not a few arguments of late to ſhow the danger of ignorance.

We

We ſhall diſmiſs the work with a ſingle remark on the ſtyle. We do not expect elegance on ſo plain a ſubject, but have a right to demand perſpicuity; and there are many paſſages which in reality cannot be eaſily underſtood. This could hardly be pardoned in a plain practical farmer, but far leſs in a gentleman who muſt be ſuppoſed to have got a liberal education.

We ſhall give our readers a ſpecimen of compoſition, which is confeſſedly too hard for us, p. 112.

'That turf is evidently engaged in active vegetation, cannot be denied, as numerous inſtances are in every county of bogs affording new fuel, which have long ago been cut out; the antiſeptic quality of bog is eaſily accounted for by the quantity of timber it contains. It is this which prevents the water from putrefying which is ſhut up within it, and cannot be changed; elſe, was a running ſtream paſſing through it, it would quickly rot and be converted into earth; therefore we muſt ſuppoſe that, in early ages, before theſe foreſts had fallen, the vicinity of moraſſes, which now are bogs, were as remarkable for their unwholeſome damps and fogs, not having yet received the aſtringent principle which the timber conveys, as they are at preſent for their ſalubrity, which is occaſioned by their poſſeſſing that principle imparted by the trees, which they cover. And this may account why this iſland was ſo poorly inhabited, and ſo overrun with immenſe foreſts.'

We have thus ſpoken freely of the work, and muſt take the liberty to ſay a ſingle word of the author. We have been uniformly pleaſed with the benevolence which he on all occaſions manifeſts. His intentions always appear ſuch as become the lover of his country, and the friend of man. His failings, even as an author, lean to the ſide of virtue. This we add, with the greater pleaſure, as our remarks may ſeem ſevere: But we have been reviewing a book, not a man; and our opinion of an author ought not to influence our judgement of his work. At the ſame time, though the character of authors falls not within our province, it would certainly increaſe our ſatisfaction to find equal proofs of benevolence in works on which the laws of criticiſm muſt pronounce a more favourable ſentence.

H.

BRANCH III.

Agricultural Intelligence.

Few ſpring ſeaſons have been more unfriendly to rural matters than the preſent; indeed, none within the compaſs of our remembrance, except thoſe of the fatal years 1782 and 1799, can be compared to it. Alternate ſnow, ſleet, rain and froſt have, leſs or more, prevailed ſince the beginning of March, which cauſed ſeed-work to be executed, as if by ſtealth, in every fair interval. The air has been conſtantly cold, blowing generally from the northern and eaſtern points: vegetation was thereby in a great meaſure ſuſpended; and, except the fields of winter wheat, the moſt part of the iſland at this date (April 25.), uniformly preſents nothing but a black aſpect.

Under theſe circumſtances, we cannot, but with regret, open this department of our work, becauſe we apprehend they will lead to more melancholy details at an after period. From every account tranſmitted to us, it appears that the important operation of depoſiting the ſeed in the ground has rarely been performed in a huſbandman-like ſtyle, and that in many inſtances the work was delayed to the very laſt moment. Unlike what happens in ordinary years, when thoſe poſſeſſed of the greateſt ſtock of patience ultimately become moſt ſucceſsful, every moment's delay augmented the periculous ſtate in which the farmer was unfortunately placed. In a word, little ſpring wheat was ſown in any diſtrict; in many, where the practice is cuſtomary, none was ſown at all. The oats were poſtponed beyond the time when they can reaſonably be thought to be ſown with ſucceſs; and are not all in the ground at this day, even in the beſt cultivated counties. Beans were a full month later than their uſual term of ſemination; and this of itſelf is a ſource of future evil: It ſubjects the farmer to all the conſequences of a late harveſt, and alſo to its uſual concomitant, a bad wheat ſeed-time afterwards.

It cannot excite ſurpriſe, that the grain markets have of late ſhown a diſpoſition to riſe, becauſe ſuch would inevitably have happened, though the ſeaſon had proved as favourable as it has been unpropitious. From a combination of cauſes, the moſt of them well underſtood, a greater quantity of grain was thrown into the public market through the courſe of winter than uſual, which tended to exhauſt the ſtack-yards at an earlier period than conſiſtent with the regular ſupply of the year. The great market of the kingdom in Mark-lane has not yet felt any diminiſhment of its ſtock, conſequently preſerves ſomething like an equability of price: But, as happens with large rivers, the ſmaller ſtreams muſt be leſſened before the main body is affected; ſo the centre market is always the laſt that undergoes a material change. If grain becomes ſcarce in the provincial markets, a proportional diminution of ſupplies for the capital muſt take place. Perhaps even the ſpeculation, which neceſſarily

neceſſarily prevails at ſuch times, haſtens forward the riſe which eventually would happen, though at a more diſtant period. In ſuch caſes, ſpeculation is no evil; the public are thereby put upon their guard, and means are uſed to make up for the exiſting deficiency.

The butcher market has continued at much the ſame rates as ſtated in our laſt; but a very conſiderable declenſion has been effected upon the price of lean ſtock. The great loſſes upon ſheep, at the end of laſt ſeaſon, rendered the graziers exceedingly cautious in making their purchaſes; and the general failure of young graſſes contributed to leſſen the demand conſiderably. This laſt circumſtance has occaſioned a general riſe in the rents of old paſtures; theſe having, in many caſes, advanced fully 30 *per cent.* above what was promiſed laſt year. The backwardneſs of vegetation, and the want of turnips, muſt be ſeverely felt upon grazing farms, eſpecially where ewes and lambs are kept: upon upland farms, the diſtreſs muſt be dreadful.

We rejoice to ſee the malt tax taken ſeriouſly under the conſideration of Parliament, being ſatisfied that a diſpaſſionate diſcuſſion muſt prove of material benefit to Scotiſh huſbandry. The Committee appointed to conſider this buſineſs, conſiſt of gentlemen of diſtinguiſhed abilities. Sir John Sinclair is chairman. We learn, that our good friend and intelligent correſpondent, Dr Skene Keith, has been called to attend the Committee, and truſt that his evidence will be eminently uſeful. Several other perſons have gone from this country upon the ſame buſineſs. A ſeparate Committee is alſo appointed for reviſing the corn laws, and much need they have of a reviſal. Theſe things prove the attention ſhewn by Mr Addington to the hitherto much neglected ſubject of rural economy.

In many counties, little progreſs has been made in ſettling the property tax, and in ſome no ſtep has as yet been taken. We are decidedly of the ſentiments formerly expreſſed, that the principle of the tax, ſo far as it affects the tenantry, is formed in error and injuſtice. No tenant at rack rent in Scotland enjoys an income equal to one half of his rent, which is the principle aſſumed by the act in queſtion. In fact, we know of tenants, latterly entered to farms, who are loſing a good deal of money, notwithſtanding that their gains and profits, according to this rule, are conſidered to be extenſive. Setting aſide the principle, which cannot be defended, except upon motives of conveniency, we are clear that the clauſes need material amendment; as, for inſtance, the year's rent, upon which the tax is to be calculated, is not aſcertained in any part of the act, at leaſt it has been differently interpreted. A plain man would think that the current rent or value of a farm muſt be meant; but ſome of the ſage expounders entertain a different opinion. They have declared that it is the rent of the preceding year that muſt be aſſeſſed; and many counties have proceeded by this rule. At firſt ſight, it may be imagined, that it is all one thing which year is taken, if the tax is to be levied according to the real value; but a ſlight conſideration will diſplay the ſubject in a different view. Suppoſe A. B. poſſeſſed land at a very high rent for 1802 and 1803, which he gave up at the ſeparation of the laſt mentioned crop from the ground, he may,

according to the method generally adopted, be rendered liable to the tax for two years, inſtead of one, as ſhould, in equity, be the caſe. According to the latitude thus taken, a farmer may be rated as enjoying income out of lands from which he has quite removed, notwithſtanding the act ſays that the occupier is in all caſes liable. The many blunders and errors in the act call loudly for a reviſion of many clauſes thereof; and when this is done, we truſt the principle will not be neglected. It gives us pleaſure to add, that the opinion given in our laſt, reſpecting the tenant's right to one eighth of deduction from rent, is now completely aſcertained.

We learn, that the labourers at the Caledonian Canal, and other public works in the northern counties, have either deſerted, or threatened to deſert, if their wages are not augmented. It would be a pity that thoſe great national undertakings ſhould be converted into an engine for raiſing the value of labour. They were principally intended, we believe, as a ſource of employment to the people in the Highlands; ſomething of the kind being neceſſary, after obſtacles had been thrown in the way of emigration. But if 18d. *per* day has been refuſed, as we are informed has been done, this circumſtance muſt afford ſure evidence that the people are in a comfortable way. When barracks were erected laſt year, the urgency of the caſe called for completing them ſpeedily, though the expence was enormous; but as to the northern improvements, no ſuch urgency can be adduced. If intended chiefly, as we believe they were, for giving employment to the people, a temporary ſtoppage can be attended with no harm, ſeeing that the fact itſelf proves that ſuch employment is not called for by the circumſtances of the country. In this way, wages may be regulated; never by any poſitive enactment.——*April* 25.

Extracts from private Correspondence.

SCOTLAND.

Letter from Galloway, April 12.

'I think the ſoil of this diſtrict, generally ſpeaking, is excellent for turnips and potatoes, but not calculated for wheat. The fields of the former, which I cultivated laſt ſeaſon, were of a very ſuperior quality to ordinary crops; but the latter, though promiſing well at firſt, yielded ſmall grain, and not altogether free of ſmut, notwithſtanding that every attention was paid to the pickling proceſs. Corn markets have been very dull for ſome time paſt. Oats, in the beginning of the ſeaſon, were 26s. to 27s. *per* 12 buſhels, but now are ſelling ſo low as 20s. to 22s. Good potato oats for ſeed are 30s. to 32s.; this kind, and *dun* oats, are much uſed with us. Cattle markets are very dull. Some people, whoſe *keep* is exhauſted, are ſelling at prices which will allow little or nothing for the turnips uſed; and I ſhall be glad to learn how the gentlemen in the eaſtern and ſouthern counties, who have taken turnips at 8l. to 10l. *per* acre, are to make out theſe prices.

'We have had much wet weather lately, with ſome froſt and ſnow; all

all of which combined, rotted, in a great meaſure, the remainder of the turnip crop. Seed-work has gone on very poorly. I began ſowing laſt week, but have got nothing done to my mind. The weather, however, now getting dry, I hope to finiſh the work with ſome degree of pleaſure.'

Letter from Falkirk, April 14.

'The circumſtances of the laſt quarter muſt have put both the reſignation and patience of the farmer to a very ſevere trial indeed.—Reſignation, under a ſtate of markets the moſt diſcouraging, and altogether unequal to the expence of bringing forward his produce, ſo as to enable him cheerfully to meet term-time without the neceſſity of aid from ſome other ſource, perhaps even driven to the ruinous expedient of touching his capital;—patience, under a vexatiouſly variable and inclement ſtate of the weather, for carrying forward the operations of ſeed-time, which has in conſequence been thrown uncommonly late, and which muſt be conſidered as at leaſt an unfavourable circumſtance to the enſuing crop. I believe we are as far forward as in many other places, where they have even a more kindly ſoil than our carſe to manage in ſuch a ſeaſon. The very favourable weather in the early part of winter had, however, greatly advanced the operations of the field; and ſome fine dry weather in February allowed the beans to be generally well got into the ground, and even, at that time, a few oats were ſown; but through almoſt the whole of March very little was done to purpoſe, from the conſtant ſucceſſion of heavy rains and ſevere froſt. Many fields of oats lay, for two or three weeks, in a very bad ſituation, half-harrowed. For two weeks paſt, however, we have had fine dry weather for field operations, though bitterly cold and ungenial; by which the oat ſeed has been finiſhed in much better condition than was expected. Wheat in many places has ſuffered greatly; and nowhere can it be ſaid to have a fine appearance. The young graſſes, not originally promiſing, are ſtill in a worſe ſtate, and probably too far gone to recover fully, however favourable the weather may prove hereafter. As to the paſtures, their appearance is truly miſerable, and have now nothing of the fine verdure they had about the beginning of the year. This total want of vegetation, at ſuch an advanced period of the ſeaſon, muſt really be a ſerious buſineſs to thoſe who are ſhort of fodder, with a full ſtock of beſtial on hand, the proſpect of relief from graſs being at preſent ſo diſtant.

'Our market for grain has been ſteadily low during the laſt quarter; it is now rather looking up, but very little has lately been preſented. A farther riſe is expected; but this now cannot be of much benefit to the farmers, as the ſtack-yards, except in the article of barley, are very thin. Wheat, about 27s.; Barley, 17s.; ſome (remarkably fine, weighing nearly twenty ſtone), 20s.; Oats, 15s. to 18s.; Beans, 17s. Our butcher market has kept uniformly high; the price of beef, in retail, is from 9d. to 9½d., and mutton 10d. to 10½d. *per* lib.

tron; and I suppose would have been still higher, had not the demand been less than usual, which, I am informed, has been fully a third below what it has been for two years past. Little of the profits of this high price, however, I believe, has reached the pockets of the feeder; it must therefore have gone to the breeder or the butcher.

'In my last letter, when noticing the rate of wages in this neighbourhood, I omitted to state that of farm servants, which with us, I imagine, is higher than in most places in Scotland. Eight guineas in the half year is the most general wage now given here to a ploughman; some principal hands ten guineas, with bed, board, and washing. If the servant is a married man, or does not live in the house, he is allowed, as board wages, two pecks of oat-meal, with a shilling (for what they call kitchen) per week. He has his coals driven, and often a little ground is allowed him for a few potatoes. Upon the whole, therefore, a ploughman cannot be estimated under thirty pounds *per annum*.

'I noticed in my last letter the property act, particularly in its application to the tenantry, and can now assure you, from the best authority, that the opinion I then gave, with some doubt, respecting the deduction of one eighth, as therein stated, was perfectly correct. The absolute injustice of assuming a tenant's rent as the criterion by which to judge of his income or profits, and his consequent ability to pay the tax, one would think, could only require to be mentioned, in order to have it amended; not to point out the glaring partiality of placing this class on a different footing from every other in the community in regard to this tax. As it will no doubt undergo a revision this Session, we may hope to see it amended in this particular, as well as in many others.

'The importance of the tenure by lease to the interests of agriculture, has been so ably discussed in many of your pages, that the subject seems in a manner exhausted, as far, at least, as reasoning can well go; but as, with some people, a single fact will go farther towards conviction than a thousand arguments, I send you the following, which has occurred in our neighbourhood, as it may serve as a warning to others not to 'go and do likewise.' The valuable barony of Kinniel, much of it fine carse soil, belonging to the Duke of Hamilton, is parcelled out into small farms, and occupied by a numerous tenantry, who conceived themselves secured in a nineteen year's lease of their possessions, of which six or seven years are yet generally to run. On entering to their farms, instead of getting a regular document, or properly extended lease, they received only some sort of letter from the factor of the late Duke; under which, however, as they had sat quietly ten or twelve years, they naturally concluded that they would continue undisturbed to the end of the nineteen. All at once, however, they have been made to understand, that this letter or promise (for I believe it is not precisely of the same nature with them all), will be of no validity in our courts of law, and that they must expect a warning

warning of removal againſt next term. In this dilemma, they will probably have only the alternative of ſubmitting to a riſe of rent, (although their poſſeſſions were let at their full value when the leaſe, if it may be ſo called, commenced), or run the riſk of the glorious uncertainty of the law, in a ſuit before our Scots court, in defending their rights. The caſe of ſome of them will be peculiarly hard. One, for inſtance, who got his farm a few years ago, at that time by far the worſt and moſt worthleſs part of the barony, and who has, by the moſt ſpirited exertions, and conſiderable expence in fallowings, dung, and laying on uncommonly heavy dreſſings of ſoapboilers aſhes, which he had the means of procuring, brought it, for the laſt two years, to carry as good crops of grain and graſs as the moſt favoured ſpot in the barony. Such a caſe needs no comment; the tale requires only to be told, to intereſt every one capable of judging of ſuch matters, and whoſe heart is not ſteeled againſt the common feelings of humanity.'

Banffshire Quarterly Report.

The property act remains unexecuted in this county, the commiſſioners not having held any meeting to that effect; of courſe, very little light is thrown upon the ſubject, which, to be ſure, is a very intricate one.

Yellow turnips were introduced into this diſtrict ſome time ago as ſpring food for cattle or ſheep; but as they are not mentioned in any of the ſouthern reports, it may be preſumed they are ſeldom uſed. Their utility is, however, ſo great, that a conſiderable quantity will be cultivated here next ſeaſon, as they ſtand the winter almoſt as well as the Swediſh, and grow much larger. They are likewiſe very fine for the pot; and the ſervants in this country prefer them to cabbage, or any other kind of vegetable.

The following is the ſtate of huſbandry, &c. for the current quarter. It was fortunate for this diſtrict that the autumn admitted farm labour to be ſo far advanced, otherwiſe it muſt have been very unſeaſonably performed, as little elſe could be done through the winter, but driving dung to be mixed in the field, a work that facilitates after operations; but the breaking up of the roads even made that difficult. The intenſe froſts during moſt of laſt month have proved very injurious to the wheat and young graſſes, and there is really leſs verdure at preſent than was in the beginning of February. This is the more to be regretted, as turnips are moſtly done, a great proportion of them being rotted, and fodder ſcarce.

The oat ſeed commenced about the end of laſt month, but was interrupted by bad weather, till a few days ago, when the land having become tolerably dry, it now goes on rapidly. The froſt ſtill continues ſevere during the night, with cold ſcorching winds through the day; ſo that vegetation ſeems to be at a ſtand.

Fat cattle have not come up to the farmer's expectations this ſeaſon, which, it is believed, is owing in part to a number of half-fed beaſts being hurried to market, and alſo, in ſome meaſure, to an unuſual

quantity of ſwine having been reared, and now ſlaughtered. Beef, very little advanced ſince laſt report, 8s. and 8s. 6d. per ſtone, ſinking offal; pork, 4s. and 4s. 6d.; hardly any mutton at market.

Very few wintering cattle are yet ſold; but thoſe in good condition are like to pay much better than ſtall-fed ones. Many of our cattle-dealers have failed, and the trade, of courſe, is now in the hands of two or three, who, no doubt, will avail themſelves of their ſituation. It is hoped, however, that dealers from a diſtance will be induced to come northward, as they will unqueſtionably find their account in doing ſo.

Few potato oats had found their way here, till this ſeaſon that a good many trials are making, for the moſt part, on lands deſigned for barley, which, by being a drug, is moſtly abandoned by the farmers.—Very little alteration in the prices of grain ſince laſt report. Oatmeal may be noted at 18s., but is not in demand. Hay has not ſold above 1s. per ſtone of 20 lib. Dutch, though I believe it may be from 15d. to 18d. in the upper diſtricts of the county, where all kinds of provender is immenſely ſcarce, and, of courſe, cattle at ſtarving. No graſs parks are yet ſet with us; nor is it thought they can maintain their former value, unleſs neceſſity oblige the farmers to have recourſe to them, in order to keep their ſtock from ſtarving.

Sheep markets have not yet commenced, nor is it well known how they will go; but ſtock, in general, is very lean. Seed potatoes rather ſcarce, and ſell at 14d. and 15d. per peck.——*April* 14.

Roſs-ſhire Quarterly Report.

We had a mild, open winter, and the ſpring ſet well in; but ſince the middle of March, we have had as bad weather as ever remembered at this ſeaſon of the year. The ſnow has been ſo ſevere on the hilly ground, that ſheep have in many places ſuffered for want of food. The alternate froſt, ſleet and rain, have kept the oat ſeed far behind in the low parts of the county. In high ſituations, little or none are yet ſown. The ſtack-yards are in general entirely exhauſted; and it is feared, if the preſent cold weather continue much longer, that many of the cattle will periſh.

The crops here turned out below an average. Oats for ſeed are riſing in price daily. Potato oats ſell at 30s. per five firlots, and common oats at 26s. Oat-meal continues at 24s. to 26s. per nine ſtones; but is getting more in demand, and expected to be higher ſoon. Barley, of which we have had large importations from the ſouth, has fallen in price; it is now ſelling at 22s. and 23s. per boll, and ſales very dull. Wheat, early in the ſeaſon, ſold at 27s. to 29s. per boll; but for ſome months paſt there has been no demand for that article. Potatoes are ſcarce and dear, 24s. per boll, and expected to be higher: our potato meaſure is equal to two Edinburgh bolls. Beef and mutton from 7d. to 8d. per lib. Amſterdam weight; Pork 4d.

Some drovers from the ſouth have lately made their appearance, but the prices of lean ſtock cannot be noticed, as few or no ſales have yet been made.

We

We feel a ſcarcity of good hands for agricultural purpoſes, many of them having been ballotted for the militia and army of reſerve; and thoſe who remain are for the moſt part volunteers, and taken up at leaſt one, and often two days in the week at drill. Wages for farm ſervants have advanced conſiderably within theſe few years. From 6l. to 8l. a year, ſix bolls of meal, about the ſixth of an acre of ground planted with potatoes, a houſe, and peats for firing, or 12s. in lieu of the latter, are given; but, in many inſtances, the money wages is much lower, probably only 3l. or 4l. a year, with permiſſion to malt a little barley *privately;* and this is conſidered of ſuch value, that maſters who give this indulgence have generally the choice of the beſt hands.

It may not be improper here to obſerve, that ſince the high duties were laid upon the licenſed ſtills, a great change, for the worſe, has taken place in this diſtrict. Illegal ſtills were then comparatively few; but ſince that period, the illicit trade has been carried on to an extent never before known, and to the almoſt total excluſion of the fair trader. ——*April* 14.

Letter from a Farmer near Kelſo, April 16.

'For fourteen days paſt, we have experienced as bad weather for ſeed-work as can poſſibly happen, and from the falls of ſnow and rain, the ground has been kept conſtantly wet, and in an unfit ſtate for the operations of the ſeaſon. The cold winds have deſtroyed all vegetation, and as our turnips are nearly gone, the flocks will ſoon be in a diſtreſſed ſtate, even in the moſt favoured ſituations. Cattle are eating up the ſtraw very faſt; conſequently the ſtack-yards are become much thinner than uſual.

'The grain market is advancing ſomething in price, and cattle and ſheep have of late ſold tolerably well. Graſs parks have let, and are daily letting, at higher rents than given laſt ſeaſon, which is owing to the want of turnips and other food for our ſheep. Potatoes are alſo riſing in value.

'The property act ſeems imperfectly underſtood; nor is this to be wondered at, ſeeing the confuſion of its arrangement. We have been called to return the value of our farms, if poſſeſſed above ſeven years; but no mention is made whether the rent to be aſſeſſed is for 1802 or 1803; though, to be ſure, this may be a material object to individuals placed under certain circumſtances.'

Selkirk Quarterly Report.

Nearly the whole of March and the current month has given moſt unfavourable weather, being generally froſty, and, at times, accompanied with heavy ſhowers of ſnow. This rendered the lands ſo wet when the froſt retreated, that it was impracticable to proceed with ſeed-work at the uſual time. Sowing, however, was partially begun in the firſt week of April; but little was done till the ſecond week, and even then the ground was by no means in proper condition. The ſeaſon being

being far advanced, induced many people to commit the precious ſeed to an ill prepared bed; and the like cauſe has occaſioned more early oats to be ſown than cuſtomary.

The weather has been equally unfavourable to vegetation as to ſeed-work, and the hill paſtures are very bad indeed. Sheep being previouſly in good order, it is to be hoped that there will be little loſs ſuſtained from the preſent ſcarcity of food, provided genial weather ſoon arrives. They have been ſeen conſiderably leaner, while no bad conſequences followed; but if ſuch weather as we preſently experience continues long, ſerious apprehenſions may be entertained. The loſs from diſeaſes has hitherto been very moderate, though the reduction in value will cut deep into the profits of ſtoremaſters. Great ewes have fallen about 25 *per cent.* below laſt year's prices; but the fall ſeems to be as much occaſioned by the extreme anxiety of the feeder not to give too much, as from an overſtocked market, there being a conſiderable demand at current prices.

The Farmer's Magazine being ſo widely circulated, renders it an excellent channel for conveying agricultural information in an unbroken chain through every quarter of the iſland. The propoſal, in laſt Number, of preſenting correct accounts of the value of labour in every diſtrict, has therefore given general ſatisfaction, and a ſtatement from this county is of courſe neceſſary. Here, ploughmen, with board, get 14l. *per annum.*; and when they maintain themſelves, ſix bolls of oat meal, graſs and fodder for a cow, land which will plant three pecks of potatoes, and 9l. in money are given. Shepherds have the paſturage of forty-five ſheep ſmeared, and ten to diſpoſe of at Martinmas, which returns them nearly the ſame money as paid to the ploughmen. Wrights receive per week 8s. with, and 12s. without board. Maſons nearly the ſame; but ſome variations have lately taken place in the two laſt articles, which, with the wages of labourers, ſhall be noticed at another time.——*April* 17.

Upper Ward of Lanark Report.

For three months back, the weather has been very variable. Some farmers began their oat-ſeed about the 1ſt of March; but after going on for a few days, were ſtopped by ſevere froſt, accompanied by heavy ſhowers of ſnow. Seed-work was therefore interrupted for more than three weeks, but is now getting forward, and the ground is in excellent ſtate.

Very little vegetation has hitherto appeared; but fodder being tolerably plentiful, it is to be hoped that a temporary want of graſs will not be of material inconvenience. Graſs parks have let much at the ſame rates as thoſe of laſt year.

Few lean cattle are yet ſold. Great ewes are much reduced in price, being about ſeven ſhillings per head lower than laſt ſeaſon.——*April* 17.

Aberdeenſhire

Aberdeenſhire Quarterly Report.

FIELD-WORK of every kind was far advanced in the autumn, and did not meet with the uſual obſtructions, through the winter months, from ſtorms, or long continued froſts; of courſe, ploughing, in general, was finiſhed early. Since the beginning of March, till about a week ago, ſeed-work was much impeded by heavy falls of ſnow and rain, with froſt conſtantly at night. As a greater ſtrength could be laid to harrowing than is common when the ploughing is farther back, the good days lately ſent have been ſo well employed, that moſt of the oats, and all the peas, are ſown in pretty good order. The ſowing of bear is not yet begun; indeed, with many, this will not be a tedious operation, as, under preſent circumſtances, a crop of this grain will not indemnify the growers. The prices of grain have fallen during the winter; and it was with difficulty that ſales were made. Bear, 15s. to 18s. per boll of 136 Stirling jugs, equal to 6½ Winchester buſhels; Oat-meal, 16s. to 17s.; Bear-meal, 10s. to 11s. per boll of 128 lib. Amſterdam; very few oats or peas bought for the ſupply of other diſtricts. Fat cattle have maintained their value, being from 8s. 6d. to 10s. 6d. per ſtone, ſink; retail prices, 6d. to 8d. per lib. The markets for lean cattle and ſheep are not yet commenced, nor can they determine prices much till the graſs ſeaſon come on. The ſtack-yards, with many, are entirely finiſhed; and few people will have grain over the ſummer.

The price of every kind of work has increaſed here as high as in any county of the kingdom. Indeed, from the very extenſive works carrying on in the city of Aberdeen and its vicinity, as alſo from the different lines of turnpike road now making through the county, a great riſe in the price of labour might have been expected. But add to this, the immenſe drain of men for the Navy, the Militia, the Army of Reſerve, independent of the companies of Volunteers, and it will not excite ſurpriſe, that ſuch numbers of uſeful hands taken from their ordinary avocations, ſhould very much increaſe the value of thoſe that remain. Even high duties, and the increaſed value of every article of wearing apparel, muſt render higher wages neceſſary for the comfort of labouring people than thoſe formerly paid them. It is obvious, however, that theſe things muſt depreſs agriculture; muſt prevent many uſeful improvements from being undertaken, and bear hard on farming capital. Such evils muſt, however, be borne with patience. Whilſt the Almighty permits the tyrant of a neighbouring country to ſcourge the human race, all muſt feel the preſſure. Holding the plough in one hand to provide ſubſiſtence, and in the other a gun, a pike, or ſpear, to be ready to meet the foe, we muſt acquit ourſelves like men, till Providence clear up the clouded ſky, and remove tyranny and threatening from our borders, leaving us in the full poſſeſſion of our original rights, liberties and immunities. Then will things find their natural level; income will exceed expenditure; and a ſurplus be left for new improvements.

With

With regard to the property tax, the buſineſs is not ſo far diſcuſſed as to enable me to ſay how it will be executed in this diſtrict. The commiſſioners have ſent papers to be filled up; ſome are returned, and ſome are not. They are only calling them in; and I have heard of no inſtance as yet of freſh valuations having been made. Indeed, if ſchoolmaſters are ſent as valuators or aſſiſtants, as authoriſed by the bill, it would be a moſt ludicrous procedure. You have ſtigmatized many parts of the bill; but there is none more ridiculous than the clauſe here alluded to.——*April* 18.

Letter from Inverneſs, April 20th.

'We have hitherto had the coldeſt ſpring ever remembered; during the laſt month ploughing was frequently ſtopped, owing to the ſeverity of the froſt, and on the morning of the 6th inſtant, we had a heavy fall of ſnow, and ſtill have frequent ſhowers of it, with pretty ſmart froſts. From all theſe cauſes, vegetation is exceedingly backward, while provender of all kinds is very ſcarce. The ſtraw in moſt places is all conſumed, and hay to be got only in few. It is difficult to ſay how the ſpring work is to be executed in many Highland diſtricts, as they are already giving the oats to their cattle that were intended for ſeed, otherwiſe they would ſtarve. In the low diſtrict here, oat ſeed is over, and ſeveral fields are already brairded. We are now engaged in ſowing barley, but are impeded much by froſt.

'Owing to extenſive importations from the ſouthern counties, the price of grain has been kept moderate. Barley 22s. to 24s., and oats 24s. and 25s.; the laſt per boll of 5 firlots, which is a trifle leſs than 8 Wincheſter buſhels. Beef and mutton are ſcarce; prices 7d. to 9d. per lib. Hay 2s. per ſtone tron weight. It is now aſcertained that the crop of this county in 1803 was not equal to four months conſumption of its inhabitants.

'A great many working people are now employed at the Caledonian canal; and the baſons here and at Fort-William are already begun. The cattle drovers are ranging the county; but offer prices very much below what was formerly given.'

Berwickſhire Quarterly Report.

The ſame variable weather which marked the progreſs of the winter months, has continued to retard the operations of agriculture during this quarter. February and March preſented only twenty-four days free of rain, ſnow or ſleet, and ſeldom three days fair in ſucceſſion; ſo that very little ſpring wheat has been got ſown, as it could only be attempted upon the drieſt ſoils, and at chance intervals. Winter wheat experienced a ſevere check from the froſts in February; but has now a promiſing appearance, though the weather all along has continued unſeaſonably cold.

Oats ſowing did not become general till the firſt week of April; peas and beans ſtill later; while the frequent recurrence of rain and ſnow has

cauſed

cauſed many fields to be harrowed rather wet. Barley ſeed is begun; but a proportion of peas and oats ſtill remains to be ſown.

This unfavourable ſeaſon has occaſioned a conſiderable loſs of both ewes and lambs; and, from the backwardneſs of vegetation, the lambs are but poorly ſupplied with milk. Young clovers are thin and weak, and turnip (from being a good deal ſpoilt) was in many caſes exhauſted by the firſt of April. Much benefit has been derived from ruta baga, which, as it preſents the only reſource that can be depended on at this ſeaſon, certainly merits a more general cultivation.

There has been no demand as yet for ſtock of any kind to the Engliſh paſtures. Fat markets, which continued pretty ſteady through the winter, have been rather glutted ſince the beginning of this month, from the ſcarcity of keep. This circumſtance has alſo tended to enhance the value of graſs encloſures, which have been letting from 25 to 50 per cent. higher than laſt year.

Our corn markets have all along been kept rather full for the demand; a circumſtance which has probably ariſen from the neceſſity of thraſhing a regular ſupply of ſtraw for the wintering ſtock; as the ſtraw, from its ſhortneſs, has this ſeaſon yielded more grain than uſual to its bulk. Prices kept gradually declining till the approach of ſeed time, ſince which they have been upon the advance. The ſtack-yards already begin to wear a vacant appearance, and will in moſt caſes be quite empty by the term of Whitſunday. Prices at preſent are—Wheat from 33s. to 35s.; Barley 15s. to 18s.; Common Oats 15s. to 17s.; Potato Oats for ſeed, 17s. to 19s.; Peas 21s. to 22s.; Early do. for ſeed, 24s. to 25s., per boll of ſix buſhels. Good Beef is retailing at 8d., and Mutton at 7½d. per lib. Dutch.

Maſons wages are at preſent from 12s. to 14s.; Carpenters from 10s. to 13s.; and Labourers from 9s. to 10s. per week; but from the extravagant rates of laſt ſummer, maſons ſeem to expect a riſe of wages about Whitſunday.——*April 20th.*

Tweeddale Quarterly Report.

The whole turnip crop of this diſtrict was conſumed without loſs, and the ſtock ſheep continued in good condition till the firſt of March. The badneſs of the weather ſince that time has however been much againſt them, and occaſions great apprehenſion of the lambing ſeaſon which is now commencing. At this time (April 19th) there is ſcarce a ſprig of graſs on our loweſt grounds, and the hill paſtures are as dead as turf; ſo that it is hardly poſſible the ewes can yield milk ſufficient for ſupporting their lambs, unleſs a favourable change ſoon takes place. A conſiderable depreſſion of price has occurred in this article, both at ſhews and private ſales: the graziers having ſuffered much laſt year, proceeded with caution in making purchaſes. Butcher meat is from 7d. to 8d.; but as the ſelling price of lean ſtock is not proportionable, there muſt be large profits ſomewhere in the ſtages betwixt the feeder and conſumer.

It

It was the 6th April before ſeed work commenced, the weather at that time turning middling dry, though extremely cold. As all were anxiouſly waiting an opportunity, the oats and peas were puſhed into the ground in fewer days than ever known; and now the fields which carried turnips are preparing for barley, though it muſt be obſerved that many ſuch are already ſown with oats, there being no demand for barley ſince the malt-tax was raiſed. The reſult of the inveſtigation in Parliament is anxiouſly looked for; and if it be of a nature as to allow a return to our former ſyſtem, the welfare and proſperity of this diſtrict will be conſiderably increaſed.

Our ſtock of fodder is much exhauſted; and as there is no appearance of graſs, it is dreaded that a ſcarcity of that article will be ſhortly felt. The young graſſes are moſtly annihilated; and upon many fields which looked tolerably well after harveſt, few plants can now be recogniſed. The grain markets have been looking up of late. Good horſes are in demand, and at high prices.——*April 19th.*

Letter from Glaſgow, April 23.

Throughout the month of February, we had the fineſt weather ever remembered at that ſeaſon of the year; in conſequence our farmers began the ſowing of their beans and oats, and a few fields were finiſhed in excellent order. Since the 1ſt of March, however, till about the 8th of the preſent month, we have had nothing but ſevere ſtorms of froſt, ſnow, and rain alternately, which ſtopped all work. From that time the weather has been dry, although cold, and the oat-ſeed is nearly concluded. We ſhould think the ſeed has not been got into the ground ſo favourably as could have been wiſhed, becauſe the ſeaſon being far gone, many of our farmers began to ſow when the ground was rather wet.

The winter ſown wheat looks well, conſidering the ſevere ſtorms it has encountered. Should the preſent cold, barren weather, however, continue much longer, it will be materially injured. Our grain market has been very ſteady for ſome time back. Wheat and oats have indeed advanced a little; but no alteration has taken place in any other kind of grain. We have ſtill a large ſtock of old Canada wheat on hand, which, with wheat, the growth of this neighbourhood, and what is daily coming in from the Frith of Forth, will be ſufficient to ſerve us till a new importation: this from Canada, in particular, is expected to be pretty conſiderable, the crop there (as is reported) having been very abundant, and the quality fine. At preſent there are but few oats at market. Our ſupplies of late have been from Northumberland and the ſouth of Scotland. We have had little or no ſale for Scotch barley this ſeaſon; what our brewers have bought has been chiefly from England: it would appear the conſumption of this grain has been much reduced of late.

State

State of Glaſgow Markets, April 23.

Dantzic wheat	30s. to 32s.	Linlithgow meaſure.
Britiſh do. -	26s. — 30s.	do. do.
Canada do. -	23s. — 28s.	per boll of 240 lib. Engliſh.
Iriſh do. -	24s. — 25s.	
Iriſh oats -	19s. 6d. — 21s.	do. 264 do.
South country oats	16s. — 17s.	do. Renfrewſhire meaſure.
Do. potato oats	19s. — 20s.	
Northumberland oats	19s. — 19s. 6d.	do. Stirling.
Do. potato oats	21s. — 23s.	
Engliſh beans and peas	21s. — 22s.	do. do.
Scotch do. -	19s. — 20s.	
Engliſh barley -	20s. — 21s.	do. do.
Scotch do. -	15s. — 16s.	
Oat-meal -	19s. — 20s.	per boll of 140 lib. Engliſh.
Do. retail price -	15d. — 16d.	per peck.
Peas-meal -	16s.	per boll of 140 lib. Engliſh.
Do. retail price -	1s. 1d.	per peck.

Mid-Lothian Quarterly Report.

The month of February, although variable, continued mild; and ſome people were induced not only to drill beans, but alſo to ſow oats; and where the fields were got finiſhed before the ſucceeding adverſe weather commenced, the young plants have come up apparently without injury. But on the 15th of March, a ſevere blaſt from the eaſt took place, which continued inceſſantly for three days, and rendered the country wetter than it had been ſince the memorable 1799. Froſt, hail, ſnow, and rain have ſucceeded each other ſo frequently, that there has been great difficulty in getting the ſeed depoſited in any thing like tolerable order, and in ſome places it is not yet entirely over.

Vegetation has met with a ſevere check, which is the almoſt certain conſequent of a mild winter, and premature growth. The wheat, however, was forward, and has hitherto withſtood the effects of ſuch weather better than might be expected. Little or no barley is yet ſown any where.

It was ſtated in laſt report, that thoſe would do well who brought as little grain to market (under the then circumſtances) as poſſible; and events already begin to evince the propriety of the remark. Old grain is in demand every ſeaſon; but few years can boaſt of ſuch quality as the wheat of laſt year's growth. Hence, it is evident, that before next year's wheat can be fit for uſe, old wheat muſt become an article of conſiderable value. Indeed, it may be laid down as a fixed rule, that when the grain of any particular year is eminent in quality, it will ultimately bring its correſpondent price.

The ſtack-yards are much leſs than uſual—ſome of them near empty; and when it is conſidered that the corn trade has been *unhinged* for ſome time

time paſt, perhaps it may be admitted that there is little more than one half of the uſual quantity of grain within the county, the town and port of Leith included.

The butcher markets have hitherto been ſupplied beyond expectation; but it is evident, that owing to the lateneſs of the ſeaſon, many half-fed animals that would have been finiſhed off with graſs, have been brought to the ſhambles prematurely, which, in the long-run, may occaſion a want. It is true, indeed, that the diſtillery cattle will fill up a gap in the article of beef; but it is apprehended that mutton muſt very ſoon become ſcarce.

Ewes with lamb have fallen from 25 to 30 *per cent.* below the extravagant prices of laſt year. Beef ſells at from 9s. to 10s. per ſtone, ſink; the quartern loaf 8d., and oat-meal at 16d. per peck of 8 lib., 17½ oz. to the lib.——*April* 23.

Eaſt-Lothian Quarterly Report.

Since laſt report, the weather has been remarkably unſteady, of courſe hoſtile to the work of the ſeaſon. Some patches of wheat were ſown in February, a few oats upon dry clover leas in March; but the great bulk of ſpring ſeed was put into the ground during the two firſt weeks of April; much when the land was not in good caſe. Oat land, on the whole, harrowed better than could have been expected; but to drill beans, was a difficult buſineſs. As the weather continues wet and unſettled, there is cauſe to dread that much of this laſt mentioned grain will periſh, or vegetate irregularly.

A greater ſcarcity of young graſſes has not been obſerved ſince the firſt introduction of clovers: even the plants which remain, are weak and ill-coloured, promiſing but a poor return to the farmer. Many tares will be ſown, as horſe-feed, to make up for the deficiency of clovers; and increaſed rents have been given for old paſtures, by thoſe who had ſtock on hand. Rural matters do not at preſent afford a comfortable proſpect; but it is unneceſſary, in this ſtage, to offer opinions upon the conſequences, ſeeing that a return of genial weather might effectually refute them.

The grain market has, for three weeks paſt, advanced conſiderably: even the barley purchaſers have diſplayed an alertneſs not witneſſed for theſe fifteen months. Good wheat per boll, ſomething above four Winchester buſhels, (ſay 3 *per cent.*), ſells from 29s. to 31s. 6d., which is higher than the beſt of Mark-Lane. Oats have alſo been in conſiderable demand, eſpecially thoſe of the potato variety, many of which, from the lateneſs of the ſeaſon, have been uſed for ſeed. The butcher market has not varied much, though the quantity of fat ſtock in this diſtrict, except with diſtillers, is very trifling.

The property-tax is generally aſſeſſed; but as accounts are not yet tranſmitted, few people know upon what principles the aſſeſſments are made. The year 1802 has been taken as the baſis of aſſeſſing landed property; and when leaſes had been poſſeſſed for more than ſeven years, freſh valuations have been made. Theſe valuations have not, however, been

been made with ſeverity, while the commiſſioners and thoſe below them beſtowed much attention upon the execution, ſo far as the meaning of the act could be comprehended. Under theſe circumſtances, it excites ſurpriſe that a complete revolution in the adminiſtrative body has this day been made at the county meeting, the leading and acting commiſſioners, appointed laſt year, being left out in the nomination, and others choſen in their place, who, with one or two exceptions, belong to that body generally recogniſed under the name of *the Family compact*. It is not for neglect of duty, either in the commiſſioners or officers below them, that this change has been made, but merely becauſe they *preſumed* to exerciſe the power, committed to them by the act, of chooſing their own collector. In making this appointment, they paſſed by the collector of the land-tax, and made choice of a young gentleman of diſtinguiſhed abilities, one who was intimately acquainted with official details, and who, in fact, had diſcharged the duties of the collector's office for many years, with credit to himſelf and ſatisfaction to the public. At any rate, the difficulties attendant upon the execution of the act being certainly now much removed, it may be conſidered as refined policy to give the heat and burden of the day to one ſet of men, and to ſweep them off when the labours of office may be performed with eaſe to thoſe concerned. One half of the trouble will not afterwards be called for, as was neceſſary at the outſet; and the ſubject being better underſtood, little more than the common routine of buſineſs will be required to carry it into execution.——*April* 30.

FIARS OF GRAIN.—CROP 1803.

Eaſt-Lothian.

	First.	Second.	Third.
Wheat	27s. 5½d.	25s. 11¾d.	24s. 7½d.
Barley	19s. 2¾d.	17s. 10d.	16s. 6½d.
Oats	18s. 6d.	16s. 11½d.	15s. 7d.
Peas	17s. 10d.	16s. 10d.	15s. 10¾d.

All per boll of Linlithgow ſtandard meaſure.

Mid-Lothian.

Beſt wheat	26s. 3d.
Second do.	24s. 9d.
Beſt Barley	18s. 6d.
Second do.	17s. 0d.
Third do.	15s. 0d.
Beſt oats	17s. 6d.
Second do.	15s. 6d.
Beſt oatmeal	18s. 0d.
Peas and beans	17s. 0d.

Berwickſhire.

Wheat	34s. 0d.
Merſe barley	16s. 0d.
Lammermuir do.	15s. 0d.
Merſe oats	16s. 0d.
Lammermuir do.	15s. 0d.
Rough bear, or big	15s. 0d.
Peas	20s. 0d.

All per boll of ſix buſhels.

Oatmeal 16s. 6d.
per boll of eight ſtone Dutch.

Aberdeenſhire.

Farm meal, 8 ſtone	16s. 0d.
Farm or market bear, without fodder	16s. 0d.
White meal, 9 ſtone	18s. 2d.

Great oats, with fodder	27s. od.
Ditto, without fodder	16s. od.
Brocked oats, with fodder	25s. od.
Ditto, without fodder	14s. od.
Bear, with fodder	25s. od.
Ware bear, with fodder	23s. od.
Ditto, without fodder	12s. 6d.
Small oats, with fodder	20s. od.
Ditto, without fodder	12s. 6d.
Market malt	36s. od.
Peas	16s. od.
Wheat	25s. od.
Rye	15s. od.

Kincardineſhire.

Oatmeal per boll	16s. 6d.
White oats, with fodder, per do.	27s. od.
Ditto, without fodder	17s. od.
Bear, with fodder	20s. od.
Ditto, without fodder	15s. od.
Peas, with fodder	25s. od.
Ditto, without fodder	15s. od.
Wheat	24s. od.

ENGLAND.

Yorkſhire Quarterly Report.

The preſent ſpring ſowing of grain has been retarded by the diſagreeable ſtate of the weather for ſome weeks paſt; yet ſomething is done on ſoils that were in any degree of previous preparation, or the moſt favoured by nature. Barley has been ſown on many of the turnip fallows; Beans, generally, on all ſoils, except in thoſe inſtances where, on ſtrong clay ſoils, the eſſential preparation of winter ploughing has been neglected. On ſuch as were fortunately laid out in drills, in time to receive the benefit of the winter's froſt, even on the wetteſt and ſtrongeſt ſoils, the beans were put in, and harrowed in excellent order, ſome weeks ſince; and they are now ſprouting through the ſurface, as faſt as the preſent unpleaſant weather will allow. By the way, this uſeful practice is too much overlooked in general: '*Sapienti verbum ſat.*' Very few oats are yet ſown; flax generally, and in good order. On the whole, the preſent is an extremely backward ſeaſon. Leſs appearance of graſs, clovers, &c. than a month ſince: yet, notwithſtanding the ſevere froſts, frequent ſnows, and deluges of rain, the wheats, in general, are tolerably promiſing. Though the end of laſt ſummer, and the whole of the autumn, were unuſually dry, the clovers and other graſs ſeeds have planted moderately, where ſown with crop: thoſe ſown without crop, about midſummer, on fallows well prepared, totally failed, and were turned up again for wheat, &c.

The

The turnips have holden out through the winter better than was expected; but are now all consumed, or nearly so. Hay has been at 7l. per ton; was lately declining from that price, till the present bleak east winds commenced, which, together with the backward state of herbage, will considerably favour its advance. All circumstances considered, the lambs already dropped are as numerous and promising as could reasonably be expected; perhaps, in number, there are more than an average.

Of course, nothing is done among the spring and summer fallows. The best Wheat is about 7s. 9d.; Barley, 3s. 6d.; Oats, 3s.; Beans, 5s.; and Potatoes, 4s. per bushel of Winchester. The price of the last article confirms the autumn Report of the produce, where it is stated as a half crop. It may not be improper to observe here, that, under many very unfavourable circumstances attending the present crisis, the above are prices not very discouraging. They are, however, sufficiently so, to warn the industrious and managing cultivator to raise his grain produce at as little cost of labour of men and *horses* as he can possibly contrive to do by the full stretch of his ingenuity and care.

Fat Cattle and Sheep sell tolerably well; Beef and Mutton, 7d. per lib.; Veal, 8d.; Butter, 1s. 3d. Lean cattle are considerably lower than last year. The best kind of horses are still very dear; yet reported at the late fair at Doncaster, 5. April, to be full 20 *per cent.* lower than last year. The wages of farm and other labourers, and of servants in general, are extravagantly high.

The tax upon property has not been collected in this district as yet, though daily expected to be demanded; of course, no great complaint is yet heard. It is expected to raise as much nearly as the late income tax; yet, no doubt, great advantage will be taken of exemptions. The assessors have had much trouble and anxiety about the mode of rating the tax, in various cases; such as occupancy by proprietors; tenants refusing to declare the real rent, &c. &c. It is presumed, that the real rack rent by the year has mostly been obtained: when that could not be done from partial circumstances of some parishes or townships, recourse was had to the poors' rate, which was proportioned to what was deemed a ratio tolerably satisfactory to the commissioners and others concerned, as far as can at present be known. The value of last year's rent was assumed as the taxable ratio of the rent by the year; and in some cases recourse was had to actual view and valuation. This was where the poors' rate was raised irregularly or unequally: *ex. gr.* a nobleman's woods, &c. &c. have been nearly free from the poors' and road taxes, while his valuable collieries have destroyed the roads. These are genuine objects of revaluation.——*April* 12.

Letter from a Farmer in Wales, April 14th.

'We have experienced a long winter, though, on the whole, not a severe one. What frosts we had were moderate, with but little snow; and although we had much wet weather, we had but few heavy rains. Our spring is late, there being but little appearance of grass at present,

and fodder is getting ſhort with many. At the ſame time, there is a ſufficient ſtock of hay to be bought at a moderate price, it being ſold at from 2l. 10s. to 4l. per ton, according to quality and ſituation.

'The laſt week of February and the firſt week of March were dry and favourable, during which period moſt of the peas, beans and oats, were ſown; ſince that time we had a month of wetneſs, when but little work was done. The weather is now very fine, and we are buſy with the barley ſeed. I believe there will be leſs of that grain ſown in this part than uſual, the low price being againſt it. Unluckily for the work of this neighbourhood, they have called out the volunteers, which conſiſt chiefly of farmers ſons and ſervants; and many farmers are at a loſs to go on with their labour. Moſt of the wheat looks well, as far as I have ſeen. There was but little ſpring wheat ſown with us this year.

'Our markets are rather worſe than otherways, particularly for wheat, which is at preſent a drug; and none but very prime ſamples will ſell, prices from 14s. to 16s. for 168 pounds. Barley and oats have remained ſtationary for ſeveral months; but they have gone off; and the rick-yards ſeem almoſt clear, except for wheat. Cattle continued on hand through the winter; but they now begin to move, and at our late fairs have ſold better than was expected, though at lower prices than for the laſt two years: it is the general opinion they will advance as the graſs comes. Ewes and lambs ſell well. I ſee little difference in the price of them now and laſt year. Pigs ſtill keep very low; but there is not ſo many bred lately as has been. A great part of the barley has been conſumed by pigs and cattle laſt winter; which mode of conſumption was found to anſwer better than ſelling it for malt, many of our malt houſes having been ſhut up

'Butcher meat is on the advance; of courſe, fat cattle ſell better; Beef and Mutton from 6d. to 9d. per pound; Veal and Lamb 5d. to 7d.; Pork 5d. and 5½d.; Butter 11d. and 1s.; Cheeſe 6d. to 9d. Potatoes are reaſonable, though dearer in proportion than the corn.'

Eſſex Quarterly Report.

WITHIN this laſt quarter the weather has been very fickle and changeable. However, upon the whole, we have not had a bad ſeed time, though it was prolonged by the alterations which took place. Beans were ſown at the latter end of February, and beginning of March, and are now ſhooting up. Barley will in a few days give the fields a beautiful appearance; and in the courſe of a fortnight we ſhall expect to ſee the earth covered with its full variety. Wheats are in a thriving ſtate, and, upon moſt lands, look amazingly well. The hoe will be found of eſſential ſervice this year, as the weeds generally prevail, owing to the mildneſs of the winter. Tares promiſe a good crop, as do both meadow and artificial graſſes. Food for cattle, however, is ſcarce, in conſequence of the failure of the turnip crops. Where cabbages were grown, they were found of great benefit, particularly in ſupplying the ewes, which have lambed down well. By the appearance which our ſtack-yards make in compariſon with the former years, we have no reaſon

to

to think that the grain markets will be conſiderably higher, particularly for barley. The property tax at this time engages the attention of every man of buſineſs, particularly farmers; but it has not yet been gathered; ſo that we are one year in arrear. It has altogether been aſſeſſed very fairly where pariſhes have lately been valued, and the rates equally adjuſted. It is taken generally by the rate, and in other caſes left to the deciſion of the aſſeſſors, which has been ſatisfactory to the country and commiſſioners, as few returns or appeals have been made. The landlord's tax is paid, not always according to the rent, but by the aſſeſſment of the tenant. It is thought, but it is impoſſible to decide, that this tax will be more productive than the old income tax.——*April 17th.*

Letter from the Eaſt Riding of Yorkſhire, April 17th.

'Our markets for grain have been very ſteady through the winter, and continue ſo, the prices in general for wheat (which is cultivated as much as poſſible) from 42s. to 52s. per quarter of 8 buſhels of 33 quarts each; the great difference in price owing to the injury ſuſtained by the mildew. Oats 17s. to 22s. per ditto, the former price being for long feed, the latter for Potato, Poland, and Frieſland of good quality. Beans 30s. to 33s. per do.; Barley 20s. to 22s. per do.; the laſt article very little grown here. Beef 7d. to 8d. per lib.; Mutton 7d.; Pork 6d.; Veal 8d. to 9d. About a month ago, we had every appearance of the ſeed time being a fine one; but after a few patches of beans had been ſown, and theſe before the land was ſufficiently dry, the weather changed to very wet; and the beans ſown ſince, ſay from the 7th to the 11th inſtant, are gone into a very cold bed indeed, and the few ſown ſooner are fairly embodied in a ſolid maſs of earth. The ſeed-time for oats is but lately begun; and as the weather continues wet, we may expect they will be ſown before the land be ſo dry as it ought to be for their reception. The wheat, wherever I go, has a ſickly appearance, owing, I ſuppoſe, to the abundance of moiſture fallen, and the continuation of wet cold weather, eſpecially upon fallowed land where lime has been uſed.

'Lean cattle and ſheep markets are on an average one third lower than this time twelvemonths; and the reduction in the price of pigs exceeds that. In rural œconomics can ſay but little; for I think your countrymen exceed us very much in agricultural purſuits; owing, in all probability, to the almoſt univerſal want of leaſes, and confidence, or both; which is a great public loſs. I don't, however, know any diſtrict more ſuſceptible of improvement, or that has greater advantages than this one, ſo far as a navigable river (perhaps as fine a one as any in the world) can contribute to that end, by conveying lime or manure, which may be had in any quantity, the former at 10s. to 12s. per chaldron of 32 buſhels Wincheſter, and the latter at 7s. to 12s. per cart-load of $1\frac{1}{4}$ ton, carried to the diſtance of 40 miles, freight included; or by flooding the low lands, which are very extenſive, in order to raiſe and enrich their ſoil with the mud, or what we call warp, which is profitable beyond deſcription upon peat earth, or light ſpongy earth that approaches

proaches ſomewhat to that nature, of which there are large tracts adjoining the rivers Humber, Trent, Ouſe, Don, and Air, over which the water may be conveyed every ſpring-tide at pleaſure, by having cloughs built, and drains cut for the purpoſe.

'About 100 acres of the latter ſoil, on the north ſide of the Humber, has been warped in the laſt ſeven years, (the firſt ever attempted on that ſide of the river); and the improvement made is great indeed, ſo as that wheat and beans can be grown with great ſafety, which could not be done before. I underſtand the tenant ſuggeſted the idea of the practicability of ſuch an improvement, and bore a large proportion of the expence. On the rivers Trent, Don, and Air, large tracts of land have been improved in this way, and more embankments continue to be made every year.'

Norfolk Quarterly Report.

A MORE gloomy and uncomfortable ſpring the agriculturiſt has ſeldom experienced than the preſent. Severe froſts and alternate thaws, the moſt trying of all weather to vegetable life, have deprived the fields of almoſt every appearance of verdure; and the total abſence of the ſun's enlivening beams, ſo deſirable at this ſeaſon, gives an unpleaſant proſpect, and excites apprehenſion leſt his exertions at ſeed-time ſhould be diſappointed at harveſt. If, on light ſoils, vegetation receives an early check, and if the ſeed remains long in the ground before it vegetates, the blade, when it does appear, is generally weak and ſickly; and nothing but a combination of happy circumſtances, ſuch as a high ſtate of cultivation, an artificial richneſs in the ſoil, and a peculiarly favourable ſeaſon afterwards, can recover it. He has an additional mortification of reflecting, that, from the failure of turnips laſt year, the barley crop muſt ſuffer conſiderably; while his flocks, in the mean time, muſt languiſh and fall off, from the want of their uſual ſupport. All thoſe things throw a gloom upon rural affairs, which will not be ſoon removed.

In laſt Report it was mentioned, that wheat ſeed-time, in this county, was particularly favourable; and it was predicted that this circumſtance would enable the plants to reſiſt the ſeverity of the winter froſts. Happily, the prediction, is completely verified, as the plants are ſufficiently abundant; and, though ſomewhat backward, are now beginning to tiller well. Be it remembered, however, that many accidents are ſtill to be encountered. Blight, mildew, and ſmut may reduce the value of the moſt promiſing crop, both in quantity and quality; and a ſeaſon like the preſent is often the precurſor of ſuch evils as are now pointed out.

The barley crop of laſt year was more than an average one; but the ſtacks of that grain have almoſt completely diſappeared; and, after deducting for ſeed, a very inconſiderable quantity will remain for the market. Wheat was below an average crop, both in quantity and quality, but ſtill maintains its ground in the ſtack-yard. Turnips were originally very defective; but the winter quarter being favourable, the farmer was enabled to keep part of them for a long time, and had reaſon to believe that he poſſeſſed a full ſupply of ſpring food. The ſevere

weather

weather of February and March disappointed these expectations. Fields which, during the winter, afforded a most gratifying prospect, were, in the month of March, so completely destroyed, that not the slightest vestige of the top or apple of a turnip could be seen, after the most minute inspection; the whole having vanished, as if by enchantment.

Of vetches and artificial grasses, there appears a full plant, though both are unusually late. Some hope may be entertained of a fair crop of lambs, though the season is certainly against them. A petition was presented from this county, complaining of hardships sustained by improper corn laws, the additional malt tax, and praying redress; which petition is now under consideration of Parliament. A statement, in support of the petition, drawn up by an intelligent agriculturist, which was laid before Mr Addington, is enclosed, together with some remarks thereupon.——*April* 18.

[We are sorry that our limits preclude us from presenting the above mentioned statement at this time; but, if not out of date, it shall be inserted in next Number.]

Northumberland Quarterly Report.

The favourable state of the weather at the time of sending last report ceased soon after, and the latter end of January proved exceedingly wet. The month of February and beginning of March were so alternately wet, and snow with hard frost, that little or no seed was got in before the second week in March. From the 12th to the 17th, the dry lands, that were cleared of turnips, were mostly sown with wheat; a few beans and peas were also put in, but the frost and snow returning on the 18th, interrupted seed-work till the 29th, and obliged many people to abandon the idea of sowing wheat and beans altogether. The oat-seed was mostly done by the middle of April, when barley sowing commenced; but another delay has taken place, by a cover of snow, for the last three days, with intense cold winds from the north-east, which have mostly prevailed for the last three weeks, and checked all kinds of vegetation. The young clovers were never known so backward, nor the scarcity of green food more severely felt, turnips being mostly done; and ruta baga, which was intended as a reserve for late spring food, has in general proved very defective, being hoven and spungy at the heart, which caused many of them to rot. This disease was probably owing to the plant being long checked in its growth, and mildewed by the drought of last summer, and, when the rains came, growing so rapidly, and increasing so much in size afterwards.

This winter has been very inimical to the mountain farmers; their sheep were seldom in lower condition; and the snow and stormy weather at present, being in the middle of their lambing season, will be severely felt.

Hay and straw are not in such abundance as last year, and the stack-yards appear much thinner. Our corn markets are advancing a little. Wheat from 5s. 6d. to 6s. per bushel Winchester; Barley, 2s. 6d. to 3s. 8d.; Oats, 2s. 6d. to 2s. 10d.; Beans and Peas, 3s. 9d. to 4s.—

The markets for fat ſtock are much lower than was expected laſt autumn; and thoſe who ſpeculated in buying ſtock to feed on turnips, will be conſiderable loſers. At laſt Morpeth market, ſheep were ſold at 7d. per lib. ſink, and have never exceeded 8d.; Beef is ſold from 7s. 6d. to 8s. per ſtone of 14 lib. ſink, but is expected to be higher.

The collection of a year's property tax of 9d. per pound on rent, has been loudly and juſtly complained of by all farmers; and probably an unfairer tax was never levied. The principle of it is ſaid to be 5 *per cent.* on income, to which the occupiers of lands have no objection; but, according to the preſent regulation, whereby 9d. per pound on rent is levied in England, many are paying 15 or 20 *per cent.* on their income, and ſcarcely in any inſtance leſs than 10 *per cent.*

Upon what *data* the framers of this act have gone, it is difficult to conjecture. Every farmer, however, can be at no loſs to bring numberleſs inſtances of the unjuſtneſs of the principle. Suppoſe we take one of a farm of 800l. a year, the tenant is charged as poſſeſſing an income of 600l., whereas his real profits are moſt probably not 200l.; and few inſtances can be produced where it exceeds 300l. I am fully convinced, that if the matter was fairly inveſtigated, it would be found that, nine times out of ten, the farmer's profit does not exceed 10 *per cent.* on his capital employed. Taking it at 10 *per cent.*, and ſuppoſing the capital employed on a farm of 800l. a year to be three rents, or 2400l., the income would be only 240l. If the capital is taken at four times the rent, or 3200l., the income would be 320l.; the average is leſs than half of what the tenant is charged with, and obliged unjuſtly to pay. An enlightened Legiſlature ought immediately to remove ſo heavy and ſo unfair a tax upon agriculture.——*April* 21.

Letter from a Yorkſhire Farmer, April 22.

'The weather for ſome time paſt has been ſo tempeſtuouſly cold, that vegetation is entirely at a ſtand, and as the turnips are now moſtly eaten, the ſheep are in great want of food, which will be ſeverely felt, as the lambing ſeaſon is commenced. The ſeverity of the weather has deſtroyed many lambs, and the general ſize is uncommonly ſmall.—The ſowing of ſpring grain has been unuſually retarded, and much is yet unfiniſhed.

'Cattle and ſheep are falling in price every day. A large ſtock of fat ſheep is ſaid to be on hand, and the graziers of ſheep upon turnips muſt loſe conſiderably.—Our markets for grain are looking up, and I think will continue to do ſo, as our ſtack-yards are very thin.

'Hay is ſelling at 7d. per ſtone of 14 lib., and is much ſought after.—The ſowing potato oats is entirely abandoned in Yorkſhire—they are found to be comparatively unproductive, and much ſubject to ſmut. I have not heard of one perſon having made uſe of them this year for ſeed; they are, however, preferred by the meal-ſellers to other ſorts, and are worth more by about 3d. per buſhel.'

Letter

Letter from London, April 23.

'We had a good ſupply of wheat to day; but the country markets being imperfectly furniſhed, occaſioned an increaſed demand. Barley has advanced within theſe few days fully 2s. per quarter, and beans are purchaſed at a ſimilar increaſe of price. Our ſupply of oats was moderate, and ſales were made freely, as will appear from the annexed ſtate.

'During the laſt three months, we have had an abundant ſupply of all kinds of grain, and prices have kept tolerably ſteady. A great many cargoes of foreign oats have been imported, and our arrivals from the northward are numerous. The price of graſs ſeeds, which had been on the decline for two months paſt, has lately advanced, eſpecially thoſe of fine quality. Hay, from the late cold and unpropitious weather, has riſen 5s. per load.—Some of the wheats on cold ſoils are looking very yellow.

'The Engliſh tenantry do not reliſh the property tax more than their northern brethren. The rent is taken upon an average of the ſeven preceding years; of courſe, 1802 is the laſt of the ſeries, and on the average thereof the tax for 1803 is paid.

'State of London Markets, April 23.

'Wheat - - -	30s. 45s. 52s. per quarter.
Grand South Country do.	52s. to 55s.
Eſſex and Kent - -	56s.—57s.
Foreign red - -	35s.—48s.
White Dantzic - -	50s. 54s.—58s.
Rye - - -	30s.—36s.
Barley - - -	20s.—25s.
Fine Barley - -	26s.
Suffolk Malt - -	56s.—58s.
Norfolk ditto - -	59s.—60s.
Grey Peas - -	30s.—33s.
Small Beans - -	35s.—39s.
Oats, long feed - -	18s.—21s. 6d.
Frieſlands - -	22s. 6d.—24s.
Polands - - -	23s.—25s.
Red Clover Seed -	70s.—84s. per cwt.
White ditto - -	90s.—105s.
Seed Tares - -	6s. per buſhel'.

NOTICES

NOTICES TO CORRESPONDENTS.

The *Strictures* of A. Z. remind us of the articles of impeachment ſaid to be preſented by Mr Burke to the Duke of Portland againſt Mr Fox. Perhaps it may ſave this gentleman ſome trouble, were he informed that the whole arrangement of the Magazine is committed to the CONDUCTOR, and that the PUBLISHER does not interfere therein. In point of conſiſtency, A. Z. does not ſeem to poſſeſs a larger ſhare than other great men. He finds fault becauſe anonymous communications are inſerted in the Magazine, and yet *anonymouſly* libels its Conductor and principal ſupporters!

It has been out of our power to find room for A. G.'s *Letter on Thraſhing Machines;* but he may rely upon its appearance in next Number. Our Dumfries correſpondent will pleaſe accept of the like notice as to his *Drainage Paper*, which has been too long delayed.

A valuable Eſſay on the ſubject of *Regulating the Value of Labour*, has been ſent us from Ayrſhire. Our ſentiments are much in uniſon with the author's leading principles, though ſome of his arguments appear to be inconcluſive.

The *Liverpool Meteorological Account* is unavoidably poſtponed.

FLAMINIUS on *Road-Work*, and OBSERVATOR on a *Juſt Rotation of Crops*, ſhall appear in our next. We have experienced a good deal of ſatisfaction from peruſing theſe two communications.

Several ingenious remarks on A. S.'s Lime Paper, p. 27. have been received. Some of them will probably appear in next Number.

The gentleman who ſigns himſelf A FEN AGRICULTURIST, ſhall be attended to. He is requeſted to tranſmit the papers mentioned; and if he pleaſes to favour us with his addreſs, our obligations to him will be increaſed.

Many other communications are come to hand, which will be duly attended to.

The Dumfries, Moray, and Kincardine reports, and other articles of intelligence, were too late.

No. XIX. will be publiſhed on Monday 13. Auguſt 1804.

ERRATUM IN THIS NUMBER.

P. 174. Second line from top, for *laſt*, read *leaſt*.

THE

FARMER'S MAGAZINE:

MONDAY, 13. AUGUST 1804.

(N°. XIX.)

BRANCH I.

ORIGINAL COMMUNICATIONS.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Conſiderations on Regulating the Value of Labour.

SIR,

THE very extenſive circulation of your Magazine, and the high character it has deſervedly obtained, render the conſequences of any erroneous principle, which may find a footing in it, much more alarming, than if its circulation or its name had attained leſs extent and celebrity.

This conſideration induces me to expreſs a total diſapprobation of certain principles reſpecting the price of labour, which appeared in Number XVII. p. 43., quite oppoſite to what I have underſtood to be a liberal ſyſtem of political economy, yet ſanctioned by the authority, and ſupported by the influence, of a name which bears in itſelf the preſumption of ſuperior information; and muſt therefore have no ſmall effect in determining the opinion of a very numerous claſs of your readers, who, engaged in the practical detail of an uſeful and honourable occupation, without leiſure to ſtudy the abſtract principles of their profeſſion, allow themſelves to be directed in this reſpect by the concluſions of thoſe who, from their ſituation in life, and opportunities of ſtudy and reflection, having more the means of acquiring knowledge, are conſidered as more able to decide upon the ſubject. I allude to a letter from a very reſpectable correſpondent,

pondent (Sir George S. Mackenzie, Bart.), reſpecting the preſent price of labour in the Highlands.

The price of labour, generally ſpeaking, is one of the moſt important objects which can fall under the conſideration of the political economiſt; not only as being that which is moſt nearly and intimately connected with the welfare, happineſs and ſupport of the moſt numerous and moſt important claſſes of ſociety, but alſo as that which, forming a component part of the price of all commodities, muſt conſequently have conſiderable effect in determining the profits and advantages of every particular ſpeculation connected with any of the different branches of trade or manufacture, and as that which, from its wonderful influence in ſtimulating induſtry, and encouraging population, by holding forth a liberal reward to the workman, may juſtly be conſidered as the main ſpring which moves the complicated mechaniſm of every agricultural and commercial community.

Impreſſed, then, with the importance of the ſubject, I truſt you will not heſitate at inſerting a few obſervations which are intended to obviate the impreſſion which may have been made on the public mind by your correſpondent's letter, as well as to diſſipate thoſe apprehenſions which appear to be entertained by many Highland proprietors, regarding the effects which, they ſuppoſe, muſt enſue from the execution of the grand Caledonian Canal, in producing a general enhancement of the price of labour, and oppoſing a barrier to every agricultural improvement.

Without enlarging on that diſcovery which ſeems to have excited ſo much ſurpriſe in your correſpondent's mind, viz. That the eſtimate of farm buildings, houſe, offices, &c. &c. exceeded conſiderably one year's rent of the eſtate, it may juſt be obſerved, what an indefinite idea this ſtatement conveys to the mind, when neither the extent of the eſtate, nor the preſent rent of the land, the two main hinges upon which the argument muſt turn, are at all mentioned. But ſuppoſing the former moderate, and the latter ſuch as we know to be the common return of Highland *improveable* eſtates, ſtill I can perceive no juſt cauſe for complaint. That agriculture is a trade which, like all other trades, requires, in the firſt inſtance, a certain outlay of capital in order to render it ſucceſsful, is a problem which will require no demonſtration; that the leſs improved the land is in its preſent ſtate, the greater muſt be the capital employed in order to render it uſefully productive, is equally obvious; and that the improvement will be directly proportional to the capital judiciouſly expended, even your correſpondent will not deny. A very extenſive territory compriſing the different varieties of

[§] *moſs-quaking*

'*moſs-quaking bog and heath-covered mountain*,' which certainly form no ſmall part of the *moſt improveable* Highland eſtates, may yield a rent that will ſcarce pay the expence of its collection; and, in ſuch a caſe, it would not be at all ſurpriſing, if the incipient improvement of a ſingle corner of it exhauſted more than the net produce of the whole property. The improver cannot expect that an immediate riſe of rent ſhall accompany the expenditure of his capital, proportional to the profits he would have received for it had it been allowed to remain in his banker's hands, or been inveſted in ſome more lucrative mercantile ſpeculation;—he muſt lay his account with receiving much leſs—perhaps none at all at firſt: he muſt conſider himſelf as a capitaliſt who engages in ſome branch of manufacture, which, as its future profits will be great, requires and juſtifies a great advance, for the purchaſe of the neceſſary machinery and inſtruments, by which alone he can look forward to future profit, or to a ſucceſsful competition with thoſe who have already made ſome advances in the trade. But neither this great outlay, nor the ſmall immediate profit which he can derive from it, ought to damp his proſpects, or ſlacken his exertions, or occaſion any regret or remorſe for the ſum which he thus applies. It would ſurely be conſidered as ſorry and niggardly policy in a manufacturer, were he to repine at the expence of the materials and inſtruments of his trade, or to purchaſe them, of an inferior quality, in order to pocket the petty ſavings of his meanneſs. But, ſubſtantial farm-houſes, convenient buildings, ſtrong encloſures, and well conſtructed roads, form the moſt eſſential parts of that machinery which is required for the manufacture of the produce of the earth; and therefore, for an improver of land to put a ſtop to his operations on account of the expence with which they are attended, or to grudge the neceſſary outlay for his buildings and encloſures, would be as abſurd as for the blackſmith to ſhut up ſhop on account of the expence of the bellows or anvil; or for the weaver to lament the coſt of his yarn, his ſhuttle or his loom. The truth is, it is not the preſent, but the future conſequences, which ought, in every inveſtiture of capital, to regulate our conduct; and theſe, we may ſafely aſſert, will, in the cultivation of the ſoil, be adequate to even our moſt ſanguine anticipations.

The labours of the ſpring would appear to him

'Who ne'er looks forward farther than his noſe,'

to be the acts of madneſs and wicked prodigality, waſting the precious food of man, and ſcattering the grain unwiſely on the ground. But to him who, in the labours of the ſeed-time, an-

cipates the abundance of the harveſt,—who in every pickle ſees a head-ſtalk, and in every handful a buſhel, the caſt of the ſower, like the ſhower of plenty, will be hailed as a bleſſing to the human race; and the expence of tillage will be conſidered as a loan to nature, for which an uſurious intereſt is about to be returned.

Let not, then, ſhort-ſighted views narrow the field of agricultural improvement; let not the proprietor conſider his intereſt as diſtinct from that of the poſſeſſor of the ſoil. If he wiſhes his lands to wave with corn, and his eſtate to be a garden, let him not grudge to buy the plough, the harrow and the ſpade; but, above all, let him render the ſituation of the cultivators of the ſoil as eaſy as poſſible, and let him be aſſured he has made the firſt and moſt eſſential ſtep to improvement, when neither a homeleſs tenant or a houſeleſs farm exiſt upon his property.

I have enlarged a little on this ſubject, becauſe complaints, ſimilar to thoſe of your correſpondent, are not unfrequent at the preſent day, and have occaſioned many landed proprietors to deſiſt from improvements they had otherwiſe intended.

What I have ſaid relates to the remote effects of ſuch improvements; but it may alſo be obſerved, that the immediate ones are not ſo unproductive as is generally imagined. The value of every commodity, in a civilized community, is determined by the expence of its production—the quantity of labour that has been employed upon it—as well as certain ideas of utility and convenience, which may depend upon the accidental conſideration of mankind. This holds, peculiarly, with regard to the habitations of men. A good houſe will, in itſelf, independent of all other circumſtances, rank high in the eſtimation of men. They have a very natural pride in being well lodged, and comfortably ſituated,—and in poſſeſſing thoſe little conveniences which, though not abſolutely among the neceſſaries, can ſcarcely be claſſed among the luxuries of life. The poſſeſſion of theſe will always be an object of deſire to mankind; and as it flatters vanity, it is paid for with pleaſure. This is remarkably the caſe among the lower Scots, notoriouſly in point of dreſs, and equally ſo with reſpect to dwellings, wherever there is room for a choice, or reaſon for a preference. In a competition of tenants, therefore, this will have its effect; a new, convenient, and ſubſtantial ſteading of farm buildings, will, for the comforts it affords, independent of its utility as a neceſſary component part of the machinery which is requiſite for his uſe as a manufacturer of rude produce, always decide the preference of an incoming tenant, other things being the ſame, or nearly the ſame.

ſame. The ſlate roof, and the ſaſh windows—the freeſtone front, and the plaſtered ceiling, have often procured for the landlord, one or two ſhillings more per acre than he would have got, if the moſs-grown thatch, the bolſtered light-hole, or the wooden lintel, had decorated the more ruſtic cottage of his farm; and that, too, ſuppoſing that the land might have been as well tilled while the tenant lived in the latter, as if he had inhabited the former. A good houſe, therefore, on a piece of waſte land, acts as a premium to its improvement; and no better kind of premium can be deviſed. People will then cultivate the land around it, which, without it, would not have attracted their labour; and, for the ſame reaſon, will give an increaſed rent for the land, becauſe they are more comfortably ſituated. Therefore, the outlay of money in ſuch buildings, has an immediate effect in raiſing the rent of land; and thus returns a profit to the landlord, equal perhaps to good intereſt for the ſum. We do not, however, always diſcriminate properly the true cauſes of an increaſe of rent.

But beſides this immediate effect—the remote profits to which I formerly alluded, will be objects of greater importance; for the ſame advantages will accrue to the farmer, in the proſecution of his trade, from a good ſteading of farm buildings, as will accrue to any manufacturer from the adoption or invention of any new machine for abridging, facilitating, or expediting labour, or for improving the nature and quality of the article he produces, and conſequently increaſing the profit he derives from it, by extending the market, and augmenting the demand.

With regard to the preſent high price of ſkilled labour in the Highland counties, complained of as ſuch an oppreſſion, and lamented over as ſo great an evil, I muſt confeſs I ſee no cauſe for ſurpriſe. It is a natural conſequence of the peculiar circumſtances which have attended the ſituation of that country—an event which every man of reflection muſt have anticipated; and which, ſo far from being the herald of approaching ruin, is in itſelf the moſt deciſive proof of an increaſing proſperity. Several circumſtances may be pointed out, which have contributed to enhance the value of ſkilled labour,—in mentioning which, we may not only explain its real cauſes, but alſo diminiſh the dread of its evil effects.

Inequalities in the nature of different employments, lay the foundation of correſponding inequalities in the profits they afford; and when exiſting in the ſame employment, they muſt alſo occaſion a difference in the proportion of its rewards. Theſe inequalities may be of a local, temporary, or accidental nature;

and wherever they exiſt, they occaſion a variation in the price of labour, as well between the different countries of the world, as between the different counties of the ſame kingdom. Hence we may perceive the fallacy of fixing on the price of labour, in any particular part of the country, as a criterion by which we are to denominate the rates, at other places, either moderate or extravagant, according as they ſink below, or exceed it. This, however, is not always attended to. The apparent effects are contraſted, but the exiſting circumſtances are overlooked; and a deciſion is made, which muſt be erroneous. Nothing, however, is ſo common as to hear country wages termed exorbitant, becauſe they either approach to, or equal, the wages of the towns. Thus, your correſpondent after lamenting the extravagance of maſon work in Roſsſhire, in order to convey to us ſome idea of it, mentions that 'he believes it is equal to what is given to the beſt hands in Edinburgh.' But this is no proof of the extravagance of the Highland maſon. Encountering difficulties, of which the town maſon is ignorant,—ſtruggling againſt a ſtream which almoſt overwhelms him,—the wages which he demands, are a moderate compenſation for the difficulties and diſadvantages by which he is ſurrounded.

1. The Inconſtancy of Employment.

That the wages of labour vary continually, in different employments, with the conſtancy or inconſtancy of employment, has been pointed out by the profound author of the Wealth of Nations. 'A maſon or bricklayer' (ſays Dr Smith) 'can neither work in hard froſt, nor in foul weather; and his employment at all other times depends upon the occaſional calls of his cuſtomers. He is liable, in conſequence, to be frequently without any. What he earns, therefore, while employed, muſt not only maintain him while he is idle, but make him ſome compenſation for thoſe anxious and deſponding moments which the thought of ſo precarious a ſituation muſt ſomtimes occaſion. While the computed earnings of the greater part of manufacturers, accordingly, are merely upon a level with the ordinary wages of common labourers, thoſe of maſons and bricklayers are generally from a half more to double thoſe wages.' On the ſame principle, it may be obſerved, that difference of ſituation &c. will occaſion a difference of wages even in the ſame occupation; and that the employment of a maſon or bricklayer in a thriving and populous city, where public works and private buildings are daily ſpringing up, from commercial opulence, with a rapidity proportioned to their ſplendour and utility, muſt be more certain and conſtant, than of one ſituated in a remote and uncultivated province, and ſtruggling with all the difficulties of unaſſiſted nature, who could only look forward

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to occaſional employment in repairing the rotten caſtle of a Highland chieftain, or building now and then a cottage for the moſt favoured of the clan. To the labourer of the town, every thing is at hand, all is convenience; without any trouble, ſolicitude or exertion, the journeymen craftsmen are provided with conſtant work—an advantage which they derive, not only from the more uniform demand, but alſo from a ſubdiviſion which takes place in the trade, when eſtabliſhed to any extent—which, by enſuring for them a ſufficient number of immediate employers through the whole year, enables them to look with indifference on the fluctuations of the future.

This claſs of employers is that of the maſter builders, or contracting capitaliſts—who, having a certain ſtock inveſted in the trade, muſt find conſtant uſe for it—do therefore enter into many ſpeculations, and conſequently employ a number of ſkilled hands to execute their engagements; and indeed would be happy to engage them, at moderate wages, in their ſervice, longer than the workmen are inclined to ſtipulate.

But, in the remote parts of the country, particularly in Roſsſhire, Inverneſsſhire, and the greater part of the Highland territory, although, from the improvements now happily ſet on foot, a demand for ſkilled labour is certainly created, yet none of its branches have acquired that extent and eſtabliſhment, which cheapens labour by rendering it more perfect, which augments its powers by ſimplifying its proceſs, and which admits of ſuch a ſubdiviſion as that which I have already noticed as taking place in the towns.

The few operative hands, who hitherto were to be found in ſuch ſituations, were obliged to carry on (as is well known) other employments, to make up for the inconſtancy of their craft. They had generally ſmall farms; building became a ſecondary object; their labour was thus divided between two trades, and conſequently they muſt have been imperfect in either. Hence, however, their wages in thoſe places continued low. But, in the preſent ſituation of things, when ſo many patriotic Highland proprietors have commenced improvements on their improveable eſtates, and ſeem convinced that the moſt effectual means of accompliſhing this end, is to ſettle the tenant comfortably in a ſubſtantial ſteading of farm houſes; if they wiſh them to be well conſtructed, they muſt employ well-inſtructed and perfectly ſkilled workmen. Now, in order to attain this end, a liberal advance of wages is the only effectual means; and this advance muſt not only be proportioned to the difference between the rates of half-taught and of perfect labour, but alſo to the embarraſſments and difficulties which the labourer muſt ſuſtain, in removing from the

conſtant and convenient market of the town, to the more uncertain, remote, and diſagreeable market of an uncultivated country. Nor muſt it be forgotten, that

2. When the ſkilled labourer has removed to this new field, he ſuffers much anxiety and fatigue, and undergoes numerous difficulties and diſappointments, before he can take his tools in his hands. The houſe he has engaged to build may perhaps be many miles from the ſpot where he was laſt at work, and may be a conſiderable diſtance from his own dwelling. He has firſt to tranſport his planks, ſcaffolding, tools, and all the other accompaniments of his labour. He has to lay the foundation ſtone on an unſheltered heath, far perhaps from the habitations of men, expoſed to the frequent inclemencies of the weather, without a ſhed to ſave him from the wet, or to ſcreen him from the wind; in ſhort, deſtitute of all thoſe conveniences which adminiſtered to his accommodation in the town.

Theſe circumſtances, it is obvious, muſt be compenſated for by an increaſe of wages. But, above all, he muſt be remunerated for the inconvenience he is obliged to ſubmit to in leaving his family. It has been well obſerved, 'that of all luggage, man is the moſt difficult to be tranſported.' This obſervation is juſt, when only a few miles conſtitute the diſtance. Whether the ſite of the building is ſo remote from the place of his dwelling, that the workman is forced to abſent himſelf from his family during the continuance of work, or whether it is only ſo far diſtant as to oblige him to walk three or four miles to and from the place, before and after his daily labour, (inſtances of which occur frequently), an increaſed reward is the only premium which can tempt him to ſubmit to ſuch painful exertions. It may be ſaid, that the dread of wanting employment will induce him to put up with theſe inconveniences, without raiſing his wages. This is in fact a diminution in the rate of labour; but it will only occur in thoſe places already well peopled, and advanced in cultivation and improvement, ſuch as the Highlands *will be* at ſome future period, but ſuch as they *are not* at preſent. Improvements have only commenced there; the competition is rather among the employers, than the workmen; and when that is the caſe, wages muſt neceſſarily riſe;—until the landed proprietors, having advanced conſiderably in the improvement of their eſtates, and workmen having become plentiful, attracted by the liberal reward, the ſupply is thus brought on a level with the demand, and a competition gradually is produced among the labourers.

3. Dr Smith mentions, that the impoſſibility of executing maſon-work in foul weather, is a cauſe of the increaſed wages of

labourers

labourers thus employed. Whoever is acquainted with the number of ſuch days in the Highland climate, will ſee, in this alſo, an explanation of the high rate of ſuch work there.

I have been thus explicit in detailing what I conceive to be a few of the real cauſes of the high rate of ſkilled labour in the Highland counties; becauſe your correſpondent ſeems to me to have totally miſapprehended them, and to have been led inconſiderately to this moſt aſtoniſhing of all concluſions, that it aroſe from a combination of the workmen among themſelves; and that, therefore, the evil muſt be checked either by a counter-combination of the country gentlemen, or by the interference of the civil magiſtrate; two meaſures, than which, he could not have imagined any more effectual, for augmenting the evil he ſeems deſirous to diminiſh—for ſtifling the improvements which he has already planned—for retarding the increaſe of food and population, and driving the inhabitants from their native land.

The dread of combination, like that of monopoly and foreſtalling, and all the other ſpecies of intellectual phantaſmagoria, which haunted for a while the heated imaginations of men, had, I thought, been entirely expelled from the confines of this iſland, by the leſs clouded light of the nineteenth century, and the extenſive circulation of the Farmer's Magazine; nor, it muſt be confeſſed, did I expect to find, that even *Highland hoſpitality* could have afforded it an aſylum.

If ſuch an apprehenſion can admit of any excuſe, it is only in 'the buſy haunts of men;' thoſe crowded walks of manufacturing induſtry, where a numerous claſs of ſhrewd and vigilant artiſans, by a corelation of intereſt, and a co-operation of endeavours, have ſome proſpect of forming a combination with ſucceſs. But here, even the propriety of civil interference may be diſputed; for as the maſters have the advantage of credit and capital to ſtand out againſt ſuch demands, while the workmen have neither of theſe—and, depending altogether on employment for ſubſiſtence, cannot abſtain from labour above a few days at moſt—it is therefore the fault of the maſters themſelves if they are the firſt to yield;—and this, ſuppoſing even the ſtrongeſt poſſible caſe of combination, in which a joint fund may have been provided by the journeymen for the purpoſe of ſupporting their claims. But, that a general combination ſhould be ſuppoſed to take place through the Highland counties of Scotland, among a ſet of poor, half-ſkilled craftſmen, thinly ſcattered, with the interval of miles, among the villages and *clachins* of the country, who, till of late years, have been accuſtomed to chiſſel turf inſtead of freeſtone, and plaſter with mud in place of mortar, and who are actually dependant on the labour of to-day, to

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ſecure the ſubſiſtence of to-morrow,—is an event as improbable, as the means recommended for obviating it (if true) are inconſiſtent with thoſe ſound, evident, and eſtabliſhed principles of political economy, which are the eminent characteriſtics of an enlightened age.

In fact, your correſpondent ſeems to have confounded two things eſſentially different—the combination of the workmen, and the competition of the maſters; and has raſhly attributed to the former, conſequences reſulting entirely from the latter. In arguing thus, it is evident that he argues completely againſt his own intereſt. For whence proceeds the competition of maſters? Certainly from ſome good to be derived from ſome expected advantage, which tempts them to bid againſt one another, in order to obtain hands to execute their work; and thus leads them voluntarily to break through that natural combination not to raiſe wages, which always exiſts among every claſs of employers. The advantage to be derived, is an increaſed produce from their land, and an augmented price for that produce: and the riſe of wages is merely the premium advanced to enſure their future gains. As in America, and other newly-peopled countries, where the price of labour roſe extravagantly high, the moſt powerful incentive to population is created; a family becomes a ſource of proſperity, inſtead of oppreſſion; and the poor man counts his wealth when he numbers his offspring. As the liberal wages he receives, enable him to live more eaſily and happily; ſo will he be the more diſpoſed to communicate that eaſe and that happineſs to others—to marry, and rear around him a numerous and induſtrious brood. This increaſe of population alſo will prove a freſh ſtimulus to the cultivation of the land—a new ſpring of wealth to the farmer. A market for the produce of his eſtate will thus be eſtabliſhed on the property of every landholder, and a better price will be paid for it. A demand will be occaſioned for the cheeſe, the butter, the milk, the fowls, the eggs, and other luxuries, as well as for the neceſſary produce of the farm; and a competition among the purchaſers of theſe will add to the profits of the farmer: And thus, although the nominal wages of labour may ſuffer no change, yet the real wages will be reduced by the increaſed price of his ſaleable commodities, which a growing market has brought to the proprietor of the produce of the ſoil. The liberal reward of labour, therefore, as it occaſions, ſo, likewiſe, it proceeds from, increaſing wealth; and, in words which ſhould be familiar to every one, 'To complain of it, is to lament over the neceſſary effect and cauſe of the greateſt public proſperity.'

While I thus diſavow entirely the principles of your reſpectable correſpondent, I cannot ſufficiently commend, or recommend

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to your notice, the hint he throws out respecting the construction of a regular table of prices in the different parishes, districts, or counties of Scotland, to be communicated by monthly or quarterly reports. Regular reports of this kind, including not only the price of labour in all its varieties—of meal, meat, and bread, as he proposes; but also of all grain, grass, hay, straw, eggs, milk, butter, cheese, and provisions and produce of all sorts,—would give us more real insight into the situation of the country, more accurate knowledge of our national resources, and more perfect tests of the riches or poverty, the happiness or misery of the different inhabitants of this island, than any mode of investigation which has hitherto been adopted. It would, above all, tend to explain the causes, and remedy the effects of those inequalities of value which exist in different counties of the same kingdom; enabling us to trace to more natural and probable circumstances than the combination of workmen, the high price of labour in different parts; and would, more effectually perhaps than any arguments I can use, convince your correspondent of the groundless nature of those apprehensions which, he confesses, cast a gloom upon his mind, in contemplating the magnificent prospect of the Caledonian Canal.

——————'*Sic nos in luce timemus*
Interdum nihilo quæ sunt metuenda magis quam
Quæ pueri in tenebris pavitant, finguntque futuræ.'

I had intended to enter into some discussion upon this projected work, respecting its probable influence in meliorating the condition of the Highlands; but having already trespassed so long on your patience in this letter, I may perhaps make it the subject of a separate communication.

Ayrshire, 1804. POL-ŒCONOMICUS.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Cursory Observations on Farm Management in the District betwixt the River Tyne in Northumberland and the Frith of Forth.

SIR,

FOR a considerable number of years, I was engaged, under my father, in the practice of agriculture, on a pretty extensive scale; and, though I have for some time been concerned in business of a different nature, early habit had made so deep an impression, that I have always been particularly attached to rural life, and have never ceased to direct a part of my attention to agricultural affairs,

affairs, which, within a ſhort period, will probably engage the whole of it. Your valuable Magazine has, therefore, attracted my particular notice. In it, as well as in other agricultural publications, I obſerve that ſome authors have pointed out that diſtrict which lies between the Tyne and the Frith of Forth, and extends from the ſea, through Northumberland and Berwickſhire, into a conſiderable part of Roxburghſhire, as a pattern of perfection in agriculture and live ſtock. Having lately had occaſion to paſs through that part of the country, I arranged matters ſo, as to have leiſure to make many remarks and inquiries relative to the management purſued in moſt parts of it; and it is with great pleaſure and ſatisfaction that I found nearly realized, what I conceived exiſted only in the imagination of ſome warm and zealous advocates, *viz.* a perfect ſyſtem of rural management. There, the farms, *generally large*, are nearly all held under the ſecurity of long leaſes, occupied by enlightened tenants, poſſeſſing abundant capital, activity, and enterprize, and cultivated in a maſterly ſtyle. There, we behold the plough aſcending the ſummits of ſteep hills; which, among tenants at will, or thoſe holding by ſhort leaſes, would be doomed to eternal ſterility. There, we not only behold great crops of corn raiſed on inferior ſoils, farmed at from 25 to 30 ſhillings an acre, (which, in ſeveral other parts of the kingdom, notwithſtanding their proximity to better markets, would ſcarcely bring one half of theſe rents), but even a greater proportion of them taken to market, than when eſtates are divided into ſmall farms. There, certain political economiſts and arithmeticians may be ſatisfied, that, though the farmers have decreaſed in number, the country has rapidly increaſed in improvement and population; and there we find what is really obſerved in our beſt managed *ſouthern diſtricts*, namely, that to conſiderable theoretical and ſcientific knowledge, the cultivators of the ſoil join *excellent practice*; and that the beſt tillage farmers are nearly all adepts in breeding, rearing, and fattening live ſtock. In that diſtrict, Sir, I have alſo obſerved that the cultivation of turnips is more ſucceſsfully purſued than in any other I have ſeen; and this, in my mind, ariſes, in a great meaſure, from the almoſt univerſal practice of ſowing the ſeed in rows on ſmall ridges, (containing all the dung in their inſides, with broad intervals of 26 to 28 inches), and to the facility which that mode affords of giving the moſt cheap and efficacious and frequent hoeings. The propriety of this mode of cultivation, however, has been controverted by ſome of your correſpondents, but I perfectly coincide in the opinion you have expreſſed upon it. And here I muſt beg leave to remark, that though 'the ſharp nib'

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of the critical pen of a conductor of such a Work as yours may sometimes be followed by the disadvantages so ably pointed out by your correspondent *Epicurus*; yet, upon the whole, I am of opinion, that *your* pen will be productive of advantages, which will overbalance its prejudicial effects, especially in supporting the congruity of your Publication. Without flattery, almost all the remarks you have made, seem to have proceeded from a profound knowledge of practical agriculture, and unquestionably render your Magazine more entertaining and useful. The turnip crop, if raised on suitable soil, and judiciously managed, is the *sheet-anchor* of the farmer, and the never-failing procurer of great crops, which, by increasing the quantity of manure, lays the foundation of succeeding abundance. Though I am a disciple of the Tullian school with respect to the importance of pulverization and cleaning; yet I am decidedly of opinion, that that state of soil which promotes the utmost luxuriance and fructification in the crops, cannot be attained but by plentiful and complete manuring. From extensive information, and pretty accurate remarks of my own, I am inclined to give the preference to drilling of corn as well as turnips; and I observe, with pleasure, that that system is pursued to a considerable extent in several parts of the district I have named, and appears to be on the increase. In the southern counties, however, it is practised on a more extensive scale; and, in some of them, bare fallowing is reduced to the narrow limits which, I observe, some agriculturists zealously contend, should be prescribed to the cultivators of the north; but, in the warmth of their zeal, it appears that they totally overlook a great disadvantage which the latter husbandmen have to contend with, *the disadvantage of climate*. Considering this, and the nature of much of their soil, a bare fallowing, once in seven or eight years, seems absolutely necessary, in order to have their lands in a clean and productive state; and I must do them the justice to say, that I have observed fewer weeds, and less couch, &c. in their fields, than in most of the more southern districts. They are also superior to the farmers in the latter mentioned parts of the kingdom in the management of calcareous manure, which they apply to fresh lands, and those abounding in vegetable matter; whereas, in some other districts, it is applied every three or four years to lands which have been scores of years in tillage; and pretty accurate experiments have proved, that lime applied to old tillage land does not repay the expence. Indeed, some agriculturists maintain, that it is like pouring medicine into a dead body, upon which it is impossible that it can operate. Viewing lime in this light, I cannot sufficiently praise the judicious system pursued in the north, of

alternate

alternate corn and grafs. By the interval of one, two, or more years between fowing the corn lands with artificial grafs-feeds, and again converting them into tillage, the ground is always freſh, always impregnated with matter on which lime acts powerfully; and by applying it *alone* to the ſtrongeſt of the land, great corn crops are raiſed, while nearly all the dung is appropriated to the turnip ſoils. Here we obſerve an additional reaſon for the *vaſt* crops of that uſeful root, which are obtained in the northern diſtricts, and for the ſolid foundation which is laid for increaſing fertility in the increaſing quantity of vegetable and animal manures.

Having thus, Sir, beſtowed upon the northern agriculturiſts that tribute of praiſe to which their diſtinguiſhed merits entitle them, I muſt now proceed to a more painful, but perhaps not leſs neceſſary taſk, that *of cenſuring ſome parts of their management.* They generally leave far too much ſtraw *uncut* in their fields; and the practice of harrowing up the ſtubbles, and carrying them to litter the ſold yards, is purſued by but a few farmers. Scourings of ditches, other rich earth, and the top ſods of drains, are not carried to be mixed with other manures, as in many parts of the ſouth, where potato tops, cabbage ſtalks, ruſhes, quickens, &c. are all collected and mixed up with lime, dung, &c.; and where the utmoſt exertions are made to raiſe rich compoſts, and to increaſe the quantity of that uſeful and invaluable article *manure.* Inſtead of this judicious practice, however, I have with ſorrow obſerved, *on both ſides of the Tweed,* even *on ſome pattern farms,* large quantities of potato and cabbage ſtems, quickens, and other valuable vegetable matter, going to waſte in ſmall heaps at the ends of ridges and ſides of the roads. This forms a diſgraceful contraſt to the other excellent management of theſe northern farmers; is detrimental to themſelves; and, conſidering the influence of their example, injurious to the adjoining country. In another part of this diſtrict, namely, that fertile tract of land between the Peaſe-Bridge and the city of Edinburgh, which ſeems, upon the whole, to be admirably cultivated and manured, ſome defects of a ſimilar nature may be obſerved. But the greateſt objections I can urge to the management there purſued, are, that ſome farmers ſuffer too many runches, &c. (which drilling and horſe-hoeing would deſtroy) to grow among their corn; and that a part of the land ſeems in a conſiderable degree exhauſted by too long, or too frequent aration. Inſtead of taking only one crop of clover and rye-graſs, would it not be more profitable management, *in the courſe of a long leaſe,* to keep more ſheep, and allow the land to remain two or three years in graſs previous to the introduction

tion of the plough? The ſituation of ſeveral farms is no doubt favourable for obtaining large ſupplies of foreign manure and ſea-weed: ſtill, however, the quantities applied in many parts, ſeem inadequate to the ſupport of that high ſtate of fertility in which ſuch excellent ſoil may be continued. I intended to have offered a few remarks on the courſe of crops recommended by the Aſſociated Farmers in Peeblesſhire, inſerted in your Magazine for November laſt, and, particularly, whether in the end it would not be more advantageous to purſue a five or ſix, inſtead of a four-courſe ſhift; but, having already occupied too many of your valuable pages, I muſt requeſt that ſome of your more able correſpondents will fully inveſtigate ſo important a ſubject. Local ſituation, and the relative prices of corn and butcher-meat, will, no doubt, have great weight in determining the courſe which ought to be purſued. I cannot, however, but conceive it extremely doubtful, whether, under a four-courſe ſhift, any land but that of the firſt quality can be *continued for a length of time* in a ſufficiently productive ſtate. Permit me to ſubſcribe myſelf a well-wiſher to your Publication,

VIATOR.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Thoughts on the Analyſation of Lime, &c.

By SIR GEO. S. MACKENZIE, *Bart.*

SIR,

I BEG leave to notice your correſpondent A. S.'s lime paper, p. 27, who, I am perſuaded, was not aware how much his method of aſcertaining the purity of limeſtone is apt to miſlead perſons not converſant in the analyſis of minerals, otherwiſe he would not have allowed you to publiſh it. Strict ſcientific language is not to be expected from a farmer, nor ought he to be expected to be able to underſtand it; and therefore, on the chemical language of A. S. I forbear making any remarks. I truſt he will not be offended at my preſuming to correct him, when I do not pretend to be a *profound* chemiſt, but only profeſs to have a ſmattering of that ſcience. I have ſo much experience, however, in the art of analyſis, that I can affirm, without danger of contradiction, that although the analyſis of limeſtone is comparatively eaſy, it is by no means *very* eaſy to diſtinguiſh good from bad, as A. S. aſſerts. I beg leave to inform him, *firſt*, that limeſtone is a neutral ſalt, and is now known among chemiſts

chemiſts by the name Carbonate of lime, implying, what A. S. ſeems to know, that it is the reſult of the combination of lime (not yet aſcertained to be an alkali, though it has properties in common with alkalis, but conſidered at preſent as an earth) and carbonic acid, which probably, in its union with lime, loſes the form of gas or air, although, when ſeparated from the earth, it takes that form. A. S. is in a prodigious error, when he directs us to buy muriatic acid from *any* laboratory. The common acid of the ſhops will cauſe abundance of ſediment to appear, even when the limeſtone is perfectly pure. I have had occaſion to uſe about as much muriatic acid as moſt amateurs of the art of chemical analyſis, and I can aſſure A. S. I never yet found any acid which did not occaſion me conſiderable pains to purify. It always contained more or leſs ſulphuric acid, which gets acceſs to it in the common proceſs for obtaining it; and this acid, with lime, forms an *inſoluble* compound, called ſulphate of lime, or gypſum. In this way, A. S. will perceive that the beſt of ten limeſtones he may try, may appear, by his method of examination, to be the worſt. Unleſs, therefore, perfectly pure acid be uſed, the teſt of A. S. is a deception. But for the further information of A. S., and ſuch of your readers as may have adopted his recipe, let us ſuppoſe that the acid is perfectly *pure*; ſtill the teſt of the *quantity of ſediment* is not ſufficient. Limeſtones, beſides lime, may, and almoſt always do, contain a variety of other earths, and ſometimes metals, moſt frequently iron. Now, the only one of theſe earths that will be left undiſſolved is the ſilicious; and if any inflammable matter is contained in the limeſtone, it will alſo be left. As to the ſeparation of the remaining earths from the ſolution, and from each other, ſo as to aſcertain their proportion to the lime and to each other, this requires manual ſkill, excluſive of conſiderable knowledge in chemiſtry, and which can be acquired only by the greateſt care and patience. Now, of two limeſtones, the one which leaves leaſt ſediment may be the worſt, and the other the beſt. If A. S. ſtudies the ſubject, he will diſcover that no ſuperficial trials, ſuch as he recommends, are of any uſe in aſcertaining the purity of limeſtone.

Without a regular analyſis by a ſkilful chemiſt, the *real* value of limeſtone cannot be aſcertained. The only method with which I am acquainted, and by which we may have a tolerable way of judging of the quality of limeſtone, *without a regular analyſis*, is the following. Having provided *pure* acid, a ſmall bottle, with a cork or glaſs ſtopper, and an *accurate* and *ſenſible* balance, and properly *adjuſted* weights, proceed as follows. Weigh the bottle, after having put in a quantity of acid, with its cork; having

having weighed the ſtone to be examined, put it into the acid, and, immediately when the effervescence ceaſes, replace the cork, and again weigh the whole. The loſs of weight is here to be attributed ſolely to the expulſion of the carbonic acid; and the greater the loſs, we may pretty ſafely aſſure ourſelves, the purer will the limeſtone be. As the muriatic acid is ſomewhat volatile, a ſmall allowance may be made on this account, in proportion to the extent of ſurface expoſed. And I may here caution thoſe who try this method, againſt filling the bottle too full, as, during the extrication of the gas, ſome acid may ſpatter over.

A. S. may ſay that the loſs of weight can be better aſcertained by burning, at leaſt with leſs trouble. I ſhall only mention one circumſtance; that if any inflammable matter happens to be preſent, its loſs, by being burnt off, will make the limeſtone appear better than it really is. A limeſtone is mentioned by A. S. as containing 99½ *per cent.* of carbonate of lime. It would have been ſatisfactory if he had told us what the remaining half *per cent.* conſiſted of. In taking my leave of A. S., I cannot help remarking, with regret, that ſo many of your correſpondents do not chooſe their names to be publiſhed. There can be no other apology for them, than that they are afraid of attack. I would only aſk, need a man be aſhamed of being told that any opinion he may have advanced is ill founded? Thoſe who write for a periodical publication ſuch as yours, do ſo as much for the ſake of receiving as of giving information. There is no danger of your admitting into the Farmer's Magazine any thing like abuſe, or uſeleſs ſeverity. I do not ſcruple to ſay that A. S. was rather raſh in ſending you the letter under review; and, from what is therein diſplayed, it appears probable, that, had he been in the cuſtom of ſigning his real name, he would never have ſent you the ſaid letter. I am led to ſuppoſe this, becauſe very ſuperficial inquiry at the ſource from whence he has derived his technical terms, would have convinced him of the inſufficiency of the teſt he propoſes for aſcertaining the quality of limeſtone, and would not have permitted him to offer his aſſiſtance to the purchaſers of lime, with ſo much apparent confidence. I am not againſt your admitting uſeful and important information without ſignature; but I certainly could not approve of any attack being admitted into the Farmer's Magazine, when one of the parties at leaſt is unknown.

Your own note on another letter from A. S., is, I apprehend, ſufficient to ſatisfy the deſire expreſſed at the end of his letter, concerning the ſmut of wheat. I do not find that the opinion of a gentleman, whoſe character and talents entitle him to the

greateſt reſpect from farmers (I mean the profeſſor of agriculture in the univerſity of Edinburgh) concerning the nature of ſmut, is generally known. He is of opinion, that ſmut is a diſeaſe in corn, ſomewhat ſimilar to cancer in the human body, and that it is communicated by a ſort of inoculation, from the attachment of the ſubſtance of diſeaſed ears to ſound ones; the plants from which, are affected by this diſeaſe in their whole conſtitution, the diſeaſe being particularly manifeſted in the ears. If I have not ſtated this correctly, Dr Coventry will have the goodneſs to put me right. Although it may be difficult to aſcertain its preciſe nature, I think there can be little doubt of ſmut being a diſeaſe of the conſtitution of the plant. Indeed, the practice of pickling in a manner proves it, as this proceſs is intended to deſtroy the cauſe of infection, which appears to have no influence on the ſeed till it begins to germinate. A habit I uſed to have of pulling unripe corn for the ſake of chewing the ſucculent part of the ſtalk under the uppermoſt knot, led me to diſcover, that from the very firſt formation of the ear, long before it breaks its confinement, it is affected by the diſeaſe, while externally the plant appears very vigorous. This circumſtance, at any rate, precludes any ſuppoſition of blight being the cauſe of ſmut, and alſo diſproves that ſmut is occaſioned by paraſitical plants or inſects. The one could not grow without the acceſs of air, nor could the latter be produced without ſome apparent injury being done to the plant from without. That the diſeaſe ſhould appear only in the ears of corn, is not more wonderful than that the dreadful conſtitutional malady, the ſcrophula, ſhould be confined to the glands. Until I obtain further information on this ſubject from obſervation and experiment, I ſhall retain the opinion of Dr Coventry as I have ſtated it, and conſider the ſubſtance of ſmut as nothing elſe than the vitiated juices of the plant altering what was intended to form wholeſome grain. This letter has become longer than I intended; but an apology for any thing which may, in the ſmalleſt degree, aſſiſt the object of your Magazine, is unneceſſary to you. I remain, with every good wiſh,

Your moſt obedient and humble ſervant,

Coul, 18*th March* 1804. GEORGE S. MACKENZIE.

TO

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Experiments in the Analyzation of Marl.

By SIR GEO. S. MACKENZIE, *Bart.*

SIR,

THINKING that A. S. may be more fully convinced of the truth of what I have already ſtated reſpecting the method of trying the qualities of limeſtone, by being told the uſual proceſſes of a chemical analyſis, and in hopes that many of your readers may be aſſured of the fallacy of rude experiments, in directing them in the purchaſe and diſtribution of lime or marl, I beg leave to ſubjoin the analyſis of marl, (not having limeſtone at hand) which is not given as perfectly accurate, but merely to ſhow ſuch of your readers as may not have ſtudied chemiſtry, the intricacy even in the analyſis of a mineral, whoſe decompoſition requires leſs dexterity than perhaps any other.

Some of the marl being divided into portions of equal weight, and allowed to dry for two days in the air,—on being again weighed, they were found to be of different weights. Hence, it is evident, that the *real* quantity of lime contained in any portion of the marl, can be aſcertained with certainty, *only after the marl has been properly dried.* Attention to this circumſtance is required in preparing any mineral for analyſis.

When thrown upon melted nitre, the marl, in its natural ſtate, detonated ſlightly. But a portion of the marl which had been dried by a heat almoſt red, ſcarcely affected the nitre. Melted nitre may be uſed as a teſt (not a perfect one) for trying the quality of any ſoil, in reſpect to the quantity of carbonaceous matter it may contain. According to the degree of detonation, the quantity of ſuch matter may be in ſome degree judged of.

One hundred grains of the marl, dried by a heat which made the ſides of the crucible barely red, loſt, during their ſolution in diluted muriatic acid, 32 *per cent.* of their weight. 100 parts of carbonate of lime, contain 55 of earth, and 45 of carbonic acid; therefore, 32 *per cent.* of fixed air, indicates 39.1 of lime. This then is the reſult of the proceſs I have recommended in my laſt letter, and it comes very near the truth when cautiouſly gone through. But the reſult of the analyſis, ſhows the marl to contain more lime than this. Therefore, either ſome fixed air was driven off in the drying, or the lime in this marl is not quite ſaturated with the carbonic acid. Whichever of theſe

caſes may occur, it is plain that the real quality of the marl muſt be aſcertained, by ſeparating all its component parts; for which purpoſe, the following proceſſes were employed.

1. 100 grains of the marl, taken from a portion previouſly dried as above, were diſſolved in diluted muriatic acid. Care was taken to allow the acid to be very ſlightly in exceſs. When the effervescence ceaſed, the whole was put into a filter, and the undiſſolved part ſufficiently waſhed with diſtilled water.

2. The filtered ſolution was firſt treated with cauſtic ammonia, which precipitated nothing. The lime was therefore thrown down by carbonate of ſoda, and the mixture was boiled and filtered. The filtered liquor being evaporated to a ſmall quantity, and boiled with ſoda, a ſmall quantity of lime was thrown down. The two portions of carbonate of lime, thus obtained after being properly waſhed, were dried, and then ſubjected to a heat which cauſed the ſides of the crucible approach to redneſs. They weighed together 74 grains.

3. The undiſſolved reſiduum, No. 1. was black, and, when heated in a crucible, took fire as charcoal does. Being taken from the furnace and allowed to cool, it weighed 23 grains. After being ſubjected to a red heat for about half an hour, the inflammable matter was conſumed, and what remained, weighed 21 grains. Having been mixed with three times its weight of dry ſoda, it was kept red hot, in a ſilver crucible for an hour. The mixture was then reduced to powder, mixed with water, and ſuperſaturated with muriatic acid, in which the moſt of it was diſſolved. In order to obtain the ſilex which might be held in ſolution, the mixture was evaporated to dryneſs; then diluted with water, and digeſted. It was then filtered. The ſilex remained on the filter. After being waſhed and heated red hot, it weighed 14 grains.

4. The ſolution which was filtered, had a greeniſh colour. Being ſaturated with carbonate of ſoda, and boiled for a little time, a browniſh precipitate was thrown down. This, after being waſhed on a filter, was digeſted in a ſolution of cauſtic potaſh. Some of it was diſſolved; but a browniſh matter remained, apparently oxide of iron. The cauſtic ſolution was ſaturated with ſulphuric acid, and a ſmall quantity of argil was obtained, which, after being heated, weighed 2 grains.

5. The iron was powdered and put into diſtilled vinegar, that any lime or magneſia might be ſeparated. One grain of lime was obtained.

6. The iron was now moiſtened with nitric acid, heated till dry, and again treated in the ſame way. It was then ſubjected to a moderate heat during fifteen minutes, and afterwards digeſted

geſted in weak nitrous acid. It remained undiſſolved, and weighed 2½.

7. From the acid in which the iron was digeſted, were ſeparated, by ſoda, 2 grains of argil.

The compoſition of this marl, then, according to the above examination, is as under:

	Grains.
Lime in 75 grains of carbonate, No. 2. & 5.	41.25
Carbonic acid - - - -	32.
Silex, No. 3. - - - -	14.
Argil, No. 4. & 7. - - -	4.
Oxide of iron, No. 6. - - -	2.5
Inflammable matter, No. 3. - -	2.
	95.75
Loſs	4.25
	100.

The ſubject of the above analyſis was found among the keepings of my deceaſed friend Dr Kennedy, who, in endeavouring to teach me the art of analyſis, ſometimes employed me with ſome ſuch ſimple minerals; and when I was difficulted, he uſed to give me directions how to proceed. The marl now examined, I have reaſon to believe, was given to Dr Kennedy either by Mr Scott of Harden, or Mr Dempſter. If either of theſe gentlemen have any analyſis of Dr Kennedy's, I believe they will find his proceſs pretty exactly followed, and deſcribed, perhaps, nearly by the ſame words; and probably the reſult may be nearly the ſame. I cannot find, among the papers of Dr Kennedy, in my poſſeſſion, any analyſes of marl, although I have the products of ſome proceſſes which he had employed; except a few notes, by which it appears, that one ſpecimen of Mr Dempſter's marl contained 94 *per cent.* of carbonate of lime, 3 of inflammable matter, argil and oxide of iron 2½. In this he appears to have loſt only ½ *per cent.*, which ſhows his extreme nicety. Another marl appears to have contained 55½ *per cent.* of carbonate of lime; and another only 15½.

In making his remarks on the above, A. S. may think he has obtained a victory, as it ſo happened, that all the other matters contained in the marl beſides the carbonate of lime, were left in the ſediment. In this caſe, I yield to him, provided he uſes pure acid; but only till he ſtudies and practiſes the art of analyſis, and knows the difficulties and unexpected occurrences which he muſt meet with frequently.

As I have never uſed lime, and not much marl, in my farm, I

cannot prefume to give any opinion refpecting the proper quantity of either which ought to be ufed, according to their different qualities. I may venture however to affert, that it is better to repeat fmall dofes of either, than to truft to one's judgement for afcertaining the full dofe which in any cafe may be thought neceffary.

It may alfo occur to A. S., that the impurity of his acid is of little confequence, when ufed in the procefs I have propofed to farmers, as the lofs of weight only is to be noticed. By ufing impure acid, it is more apt to fly off in fumes, than that which is pure, during the extrication of the fixed air; and the extrication cannot be properly effected without the acid being greatly diluted, which occafions the *menftrua* to acquire an inconvenient bulk.

I am, Sir, your moft obedient and humble fervant,

GEORGE S. MACKENZIE.

Coul, 10*th April* 1804.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On afcertaining the Quality of Limeftone.

SIR,

THE benefits that might be derived from the union of chemical knowledge with extenfive obfervation of agricultural facts, are perhaps incalculable. Your correfpondent A. S. has, in the Number for February, given a method of afcertaining the quality of lime, which, however, only regards the quantity of foluble matter in a given weight of lime or limeftone. He concludes, 'that the limeftone which leaves leaft fediment when diffolved, is of courfe the beft;' I fuppofe him to mean, for the purpofes of agriculture. It is impoffible to lay down any general rules refpecting the fitnefs of lime for the purpofes of agriculture, becaufe much muft depend on the peculiarities of foil, and other circumftances. All that can be accomplifhed by chemical means, is to afcertain the degree of purity of the lime, and to infer, from that, to what kind of foil it is beft adapted.

There is one earth, however, lately found in feveral limeftones, which is highly injurious to the vegetation of plants, and is not difcoverable by folution merely, being, equally with lime, foluble in muriatic acid. This earth is magnefia, which Mr Tennant, the gentleman to whom we owe this fact, has, by direct experiments, proved to be extremely noxious to plants. The prefence of magnefia in lime, is found to be a very common occurrence.

The

The magnesian limestone, according to Mr Tennant, may easily be distinguished from that which is purely calcareous, by the slowness of its solution in acids, which is so considerable, that even the softest kind of the former is much longer in dissolving than marble. It has also frequently a crystallized structure; and sometimes, though not always, small black dots may be seen dispersed through it.

To ascertain, by chemical means, the composition of lime or limestone, the following is an easy and accurate process.

Let 100 grains of lime or limestone, well dried, be dissolved, without heat, in a small proportion of diluted muriatic acid (spirit of salt.)

If the solution contain only calcareous earth, it will give no precipitate with solution of pure ammonia (spirit of sal ammoniac.) The phial containing the solution, should be instantly closed, lest the ammonia should absorb carbonic acid (fixed air.)

But it will afford a precipitate, when sulphuric acid (oil of vitriol), or carbonate of potash (salt of tartar) is added.

If it contain calcareous earth and magnesia, it will give a precipitate both with pure ammonia and sulphuric acid: this latter result is hastened by evaporation, or a slight addition of spirit of wine.

Or the lime and magnesia may be separated, by adding moderately strong sulphuric acid to the muriatic solution, as long as any precipitate appears, then heating the solution slightly, and adding spirit of wine. The sulphate of lime, thus precipitated, being filtered off, and heated gradually to redness for half an hour, will then be deficcated; and of this, 100 grains will contain nearly 39 of lime, which would form 70 grains of deficcated limestone. The magnesia may now be precipated from the muriatic solution by carbonate of soda (salt of soda); then dried and weighed. The quantity of each ingredient will thus be found in the same state as it existed in the limestone.

I am yours, &c.

Yorkshire, 1804. TYRO.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On Draining.

SIR,

I have observed in your useful Magazine, great attention bestowed for the purpose of ascertaining the best method of draining wet lands; and the subject is surely very deserving of it,—as

low lying lands, particularly of that deſcription, when effectually drained, are a great acquiſition, the greateſt part of them being of the beſt quality, or capable of being made ſo. I ſee, however, by your laſt Nnmbers, that the matter ſtill remains in a great meaſure a deſideratum. I ſhall therefore trouble you with a few thoughts upon the ſubject.

The general method hitherto practiſed in the cutting of drains, is, to throw up the earth on one or both ſides of the drain; which, in my opinion, is a great miſtake. In this method, the weight of the ſuperincumbent earth renders the ſubſtratum more ſolid, and conſequently more impervious than it was before, and therefore water collected on the back of it, after a fall of rain, or the overflowing of a brook, is much longer in running off than it would otherwiſe have been. I once obſerved a drain cut alongſt the loweſt ſkirt of a meadow, to contain the waters of a ſmall burn or brook, that had formerly run in a natural courſe, much in the ſame line. In forming this drain, all the earth was thrown upon the meadow ſide. The conſequence was, that the meadow was nearly rendered uſeleſs, by the water, after heavy falls of rain and the overflowing of the brook, ſtagnating upon it almoſt the whole year round. It remained ſo for upwards of twenty years, until the courſe of the burn was turned another way.

What Mr Elkington's method of draining is, I have never heard nor ſeen deſcribed; nor does the perſon, who gives an account in your Magazine, of his draining a large moraſs, mention his method; if he had done this, it might have been of great advantage, as operations of that kind can only be carried on with ſucceſs during the ſummer ſeaſon.

The beſt method I have ſeen, and which I obſerve practiſed on the farm of *Auchencreath*, a little north of this place, on a piece of wet level ground, ſubject to be overflowed, is, by cleaning all the furrows, after ſowing, into the furrow of the head-ridge, which runs parallel with the ditch. The head-ridge furrow is well cleaned up; and ſeveral cuttings are made from it through the ridge and bank into the drain. This mode, however, has its inconveniences. Clods of earth are continually falling into the furrows, waſhed down by heavy rains, or the action of the water by the wind, if it is in the leaſt overflowed. The water, thus prevented from running off, ſtagnates in the furrows, and keeps the ridges wet; for the water, in moſt ſoils, is apt to riſe even higher in the ridge as in a ſpring, than its ſurface in the furrow, to the great detriment of the plants, eſpecially in cold froſty weather; and, from the multiplicity of concerns relating to a farm, the clearing of the furrows is moſt frequently overlooked until irreparable injury is done.

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The mode of draining I would propoſe, may, in the firſt inſtance, be moſt expenſive; yet if it ſhall be moſt effectual, attended with leſs trouble and expence afterwards, and its effects permanent, a complete reimburſement will be made in a few years, and the advantages likewiſe permanent.

In the *firſt* place, let us ſuppoſe a piece of low wet land, conſiſting of a few acres. If it has any inclination, it is obvious the drain muſt be formed on that ſide which is loweſt; always ſuppoſing, however, that the ſituation of the ground is ſuch as to admit the water to be conveyed away into ſome other drain or brook. But probably I ſhall be as well underſtood, by ſuppoſing a ditch has been already drawn in the old form, alongſt the loweſt ſkirt of ſuch a piece of land. In the ſummer ſeaſon, then, as ſoon as the piece of ground is ſo dry as to admit of it, I would begin at 8 or 10 feet diſtance from the ſide of the ditch, and pare off the earth, ſloping it down gradually to the depth of 2 feet or 2½ feet at the brink of the ditch; and ſuppoſing the ditch to be 3 feet or 3½ feet deep, the remaining foot may be left to contain the ordinary water. The earth thus pared off muſt be carted into hollow places (if there are any) in the field. If the ſurface is even, it muſt be laid on (as far as it goes) thicker and thicker the farther from the drain, to increaſe the acclivity; and in ſo far as it does this, it is manifeſtly of the greateſt advantage. After having proceeded this way alongſt the whole courſe of the ditch, it is then finiſhed, in ſo far as it is intended only for a drain. In ploughing, it certainly will occur to every one, that the ridges muſt on no account be drawn parallel to the ditch, but at right angles with it, the ends of the ridges terminating preciſely at that part where, in paring off the earth, the declivity begins. By this means, the water has not only a free and immediate deſcent from the furrows into the ditch, but the water drains more freely from the ridge itſelf, when ploughed in that direction, than when ploughed acroſs the deſcent.

Secondly, Suppoſing a field perfectly level, or having a ſmall deſcent on any two of its oppoſite ſides. In either caſe, a ditch or drain ought to be made on each of theſe ſides, and the earth taken out of them diſpoſed of, as before directed, by ſpreading it over the middle of the field. And as every advantage ought to be taken to heighten the ſurface; in the firſt ploughing, the whole field ſhould be gathered up into one ridge, parallel with the drains; which may be repeated every time the land is broke up after graſs, and then ploughed acroſs, between drain and drain, for ſowing. The declining border, which ſhould form the head-ridge, ought never to be ploughed. But it is not therefore loſt. It may be prepared and laid down the firſt year with rye-

rye-grafs, that it may gain a fwarth the fooner; and, if not fubject to be overflowed, may be very valuable as a grafs bank for cutting in fummer. According to the above plan, we apprehend, a bog or morafs of 1000 acres may be effectually drained, by cutting one principal drain through the middle of it, or that part which appears loweft; planning out the ground on each fide of it into corn fields, as fmall as may be convenient; and forming the drains between them, that fall into the main drain, in the manner above directed.

Thirdly, If a plot of land is large enough to admit of being divided into two fields, a fence will be neceffary between them. In this cafe, the fence may be formed in making the drains on each fide; breaking ground at 2 feet diftance, and floping it down to 3 or 3½ feet width at bottom; laying 2 feet of earth upon the top, which will make the fence between 4 and 5 feet high; and, though foft at firft, will turn more folid when dry. Planting a thick row of faughs near the bottom, on each fide, will both ftrengthen and add to the fence. They can eafily be procured, and will generally thrive in fuch fituations. Should a cart-road between two fields be neceffary, the fame method is to be obferved, leaving the proper fpace. It is needlefs to make any more obfervations, as what has been fuggefted is fufficient to direct in any modification with regard to fituation or figure. There are large tracts of wet moffy foil in the higheft part of the interior, occupied only as fheep farms, the climate abfolutely prohibiting all idea of raifing crops, which I think might be greatly ameliorated, even for the purpofe for which they are occupied: At leaft the following experiment might be made. Drain a field according to the foregoing method, if it is level; if it has confiderable inclination, with rumbling fivers. Then, in the heat of fummer, when the land is dry, fpread it over thick with what vegetable fubftances can be procured in greateft quantity, bent or bulrufhes; let them be ploughed deep into the ground, and harrowed: There is a great probability that a fermentation will fucceed, which, together with the drying of the ground by draining it, may fo far alter the nature of the foil, as to make it produce excellent grafs either for hay or paflure.

There are almoft in every farm fmall pieces of land, in the ends and corners of fields, which, from the lowneſs of their fituation, are very wet, and from which the water cannot be conveyed away, on account of intervening rifing grounds, or other obftacles. Thefe places, though the beft of the foil, are always loft, being generally overlooked. But if they were all added together, they would probably make a larger

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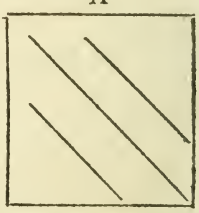
total of loſs to the country than is imagined. As rumbling ſivers would be of no uſe here, the only method of drying theſe places, is, by digging a pond of two or three feet deep in the loweſt corner, proportioning the ſize of it to that of the plot or quantity of water generally collected upon it. And although the ſize cannot at firſt be aſcertained, it will be better to make it rather ſmall as large; as, ſhould it anſwer, no land is then loſt. If too ſmall, it can be enlarged; removing the earth that is dug out of it to the upper part of the wet ſpot, for this is never to be loſt ſight of; and making a ſmall cut alongſt the loweſt ſide into the pond.

There are on many farms, particularly in elevated ſituations among riſing grounds, ſpots in the form of a baſon, which are commonly filled with water during winter, and in rainy ſeaſons; and they will be more or leſs ſo as the riſing lands around them are more or leſs extenſive. They are always loſt; and as many of them are on hard bottoms, their recovery would be a conſiderable acquiſition to farms of this deſcription. To hazard any thing more than mere ſpeculation, on a ſubject that has hitherto been thought deſperate, would be preſumption. But I have many times obſerved, in dry weather, the water more quickly to diſappear from off ſuch parts, than I could ſuppoſe to have taken place only from evaporation; the more eſpecially as, even during that period, there behoved more water to have fallen into them from the circumjacent grounds, than I could have ſuppoſed to have been evaporated by the heat of the ſun and air. This ſhows that the water found its way by draining through the earth, in conſequence of the elevated ſituation of the baſon. In ſuch places, therefore, where the elevation is conſiderable, this experiment might be made. In the middle of the baſon dig a pit 5 or 6 feet diameter, carting the rich mould on the top to ſome poor piece of land. Let the pit be dug 5 or 6 feet deep, or until a ſtratum of ſand or looſe gravel is come at, but not deeper than 8 feet; then fill up with ſtones, covering them pretty thick with ſtraw before the earth is put over them. Such a conſiderable body of water, in immediate contact with the bed of ſand or gravel, may probably force a paſſage through it in ſome one or more directions; by which the diſcharge may be in ſome meaſure equalized with the influx of waters from above; at leaſt in the ſummer ſeaſon. But in ſituations where the bottom of the baſon is on a level with the ſurrounding plain, ſuch an operation would be as impracticable as unſucceſsful. Even ſuppoſing the baſon dry in ſummer, a pit ſunk here would infallibly bring up water. Suppoſing, however, the above ſcheme ſhould not ſucceed, ſtill it would be better

ter to compound the matter than loſe the whole. A pond might be dug in the middle, 3 or 4 feet deep, and in ſize about a fifth or ſixth part of the area of the baſon, which would contain all the ſuperfluous water; the reſt would be dry, and fit for culture.

There are likewiſe a great many lands in this country that have a conſiderable deſcent, and yet, on account of ſprings, and the retentive quality of the ſoil, or other cauſes, are continually very wet. Such are a great many moor lands, particularly thoſe of Clydeſdale and Ayrſhire. This continual wetneſs keeps the land perpetually wild and unproductive. I know no better remedy in ſuch caſes than rumbling ſivers. In ſome parts of the country, however, ſtones neceſſary for forming them, are either not to be had at all, or not in ſufficient quantity. If the farm does not furniſh ſmall ſtones, probably large ones can be had, which may be broke; and in this caſe the moſt compendious method muſt be uſed. Probably three diagonal ſivers in a field that has conſiderable declivity, and a plain ſurface, as in the annexed figure, whereof A is the moſt elevated ſide, will have as much effect as treble the number drawn right up and down; and as ſuch lands either are, or always ought to be, encloſed with hedge and ditch, the lower ends of the ſivers will enter the ditches. But if ſtones cannot at all be had, the land ought not to be loſt; the beſt ſubſtitute that can be had muſt be uſed. Probably bruſhwood can be got, or if that cannot, ſtrong heather pulled up by the roots may. The firſt layer ſhould be of the ſtrongeſt heather, placed lengthwiſe in the bottom of the ſiver; the ſecond layer of finer heather laid acroſs it, the better to ſupport the earth; above that, ſods, with the green ſide undermoſt, jammed between ſide and ſide archwiſe. This may have ſo good an effect in moſt caſes, and for ſuch a length of time, as ſhall amply reimburſe the expence, and, in many, prove an effectual remedy, by keeping the land dry, until by culture its nature is totally changed.



Having laid before you this project, I confeſs that I am not over-ſanguine in regard to its adoption. The trouble and expence will no doubt be conſiderable, and the work could only be practicable, in wet boggy lands, during a dry ſummer ſeaſon; but then this is the ſlackeſt ſeaſon of the year with the farmer. At the ſame time, the proſpect of ſucceſs is, I think, conſiderable, from the two principal objects the project holds out, viz. raiſing the land backwards from the drain, by ſpread-

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ing over it the earth dug out, and likewiſe laying it up with the plough; whereby thoſe parts fartheſt from the drain, being more elevated, will be rendered thereby more dry; and thoſe parts next to it, will be likewiſe kept dry, by the free and ready conveyance that the water finds from the field. There are ſeveral very valuable fields in the farm above mentioned, and in the vicinity of it, that would eaſily admit of the experiment, and I am perſuaded with ſucceſs.

Should you deem this worthy of inſertion, I ſhall at leaſt hope that it will either provoke a juſt and ſatisfactory criticiſm, or be the means of procuring from ſome of your more intelligent correſpondents a preferable plan. I am, Sir, your moſt humble ſervant, J. C.

Dumfries, May 9th, 1803.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On a Suitable Rotation of Crops.

SIR,

I BEG leave to offer, for inſertion in your Magazine, ſome deſultory thoughts on the rotation of crops.

A ſuitable rotation of crops is unqueſtionably a very important part of huſbandry; and though an adequate knowledge concerning it be ſeemingly of very eaſy attainment, yet, in fact, no ſmall degree of judgment and experience is neceſſary, ſo to arrange the ſyſtem of cropping, and to adapt it to the varieties of ſoil and climate, that the greateſt poſſible produce may be obtained. It is, indeed, a very eaſy matter to follow a courſe of alternate white and green crops; but very little obſervation will ſerve to convince one, that this general rule may be very ſtrictly obſerved, and yet the ſyſtem of cropping practiſed may be very defective. Indeed, ſo prominent a place does the judicious arrangement of crops poſſeſs in the agricultural art, that I cannot think of any better criterion for eſtimating the merits of a farmer, than the courſe of cropping he has adopted. It has therefore occurred to me, that occaſional diſquiſitions on this ſubject may not unuſefully occupy a place in your widely diffuſed Magazine. I have ſometimes amuſed myſelf with calculating the probable value of produce from the crops of different rotations, in order to find out the moſt profitable amongſt them; but ſhall not trouble you with theſe calculations at preſent. My intention, at this time, is to mention

mention ſome of the moſt approved ſyſtems; to ſay a few things with regard to their peculiar excellences; and, laſtly, to recommend a change of ſyſtem in the ſame farm, on the very plauſible hypotheſis, that 'nature delights in variety.'

I ſhall begin with one ſyſtem of cropping, which, in my opinion (where ſoil and climate are favourable), comes as near perfection, as any that can be adopted. It is practiſed very generally in this county, on deep loams near the ſea coaſt, where the turnip crop forms a part of the rotation; and likewiſe by ſome good farmers, on ſuch ſoils as indiſpenſably require ſummer-fallow in place of turnips. The ſyſtem I mean is as follows: 1ſt, Summer-fallow, or turnips, according to the ſoil: 2d, Barley: 3d, Graſs: 4th, Oats: 5th, Drilled beans, or peas: 6th, Wheat, which finiſhes the rotation. It may be objected to this method of cropping, that by placing the moſt valuable of all grain crops, to wit, wheat, in the back ground, and barley, the moſt precarious, and now the leaſt advantageous of all white crops, in front, the cultivator will thereby derive leſs profit, than by reverſing this practice; or rather by rejecting barley altogether, and making a crop of wheat to ſucceed both fallow or turnips, and likewiſe the bean or peas crop. It muſt be admitted, that this objection has peculiar weight, now when barley does not hold its uſual place in the ſcale of prices: But it is to be hoped, that either ſomething will be done by our legiſlators to remedy this evil; or, like ſome other evils in political economy, it will work its own cure. Inſtead, therefore, of attempting to combat this objection, I will proceed to point out ſome of the excellences of this rotation. The moſt prominent certainly is, the equal diſtribution of farm labour; ſo that the ſowing of each kind of grain follows another in regular ſucceſſion, thereby enabling the farmer to execute all his operations in the beſt ſtyle. When a crop of wheat is invariably taken after ſummer-fallow or turnips, it will often happen, from the poaching of the turnip-land, and its not being in all ſeaſons practicable to pulveriſe the ſoil ſufficiently, by repeated ploughings for the reception of graſs-ſeeds, that a failure of the graſs crop will frequently be the conſequence: whereas, by ſowing barley in place of wheat, the farmer will have ſufficient time to beſtow ſo much labour as is neceſſary to correct the evil, and to prepare a proper bed for the tender roots of the graſs-ſeeds; and thus, a derangement of his plans will be prevented—a matter of no ſmall importance in agriculture. Again, on clay ſoils, it will not ſeldom happen that, on account of wet ſummers, the farmer will be prevented from working his fallows ſo completely, as to enable him to ſow winter wheat with propriety, if he means to follow his uſual rotation; in which caſe,

caſe, the beſt method he can have recourſe to for rectifying the defects of his fallow, is to plough it again in the ſpring, which, it is plain, cannot ordinarily be done in time for wheat; therefore barley or oats muſt be ſown in its place. But, after all, though the above rotation poſſeſſes, in my judgment, many advantages, yet, as was before obſerved, ſuch is the preſent comparatively reduced price of barley, that ſcarcely any prudent farmer will think of cultivating it to the extent he was formerly inclined to do, until the price again finds its due level. Beſides, it muſt be obſerved, that on the generality of ſoils, the rotation I have ventured to recommend cannot be with ſafety adopted; for, except on deep loams, naturally rich ſoils, or ſuch as are under the beneficial influence of lime, it will almoſt invariably be adviſable to ſow wheat after fallow, or even oats, in preference to barley. I ſhall now therefore mention another rotation, which is, I believe, more extenſively adopted than the laſt; and that is, 1ſt, ſummer-fallow; 2d, wheat; 3d, graſs; 4th, oats; 5th, drilled beans, or broad-caſt peas; 6th, wheat, or oats. This rotation is perhaps as judicious as any that can be choſen upon wet clay ſoils; barley being wholly excluded, as a very precarious crop, eſpecially if ſuch have not been lately limed. The moſt obvious diſadvantage attending this rotation ſeems to be, that when, from wet ſummers, or from want of due exertion, the fallows have not been perfectly cleaned, the land gets very foul before the rotation is completed; and, of courſe, the crops turn out unproductive.

The judicious and experienced farmer will therefore be induced to deviate from this method of cropping, when, from whatever cauſe, he obſerves that his fallows have not been ſo completely dreſſed, as to render it prudent to ſow graſs-ſeeds among his fallow wheat, and will rather take a crop of drilled beans after the wheat, and, by beſtowing ſome extraordinary labour and attention to the cleaning of it, endeavour to rectify, in ſome meaſure, the defects of his fallow; and then either conclude the rotation, by taking another crop of wheat; or, when decent barley may be expected, to take a crop of that grain after three furrows; next graſs-ſeeds, and then oats.

A rotation of eight crops has been ſucceſsfully adopted by ſome excellent farmers, and is as follows: 1ſt, Summer-fallow; 2d, wheat; 3d, drilled beans; 4th, barley; 5th, graſs; 6th, oats; then, after dunging, 7th, drilled beans; 8th, wheat. I am inclined to think, that this rotation is a very good one, on ſuch rich clays as are favourable to the culture of beans, or where the farmer has it in his power to apply more manure than the farm itſelf produces; but it certainly cannot be very generally adopted.

I will therefore mention another rotation, in which paſture graſſes are introduced; and though, I believe, it is but ſeldom followed, yet I can ſay from experience, that I have tried it more than once, and not without ſucceſs: 1ſt, Fallow; 2d, wheat; 3d, graſs; 4th, oats; 5th, drilled peas and beans; 6th, barley, after four ploughings; 7th, paſture; 8th, paſture; 9th, oats. I know very well, that this rotation will be reprobated by ſome agriculturiſts, becauſe the paſture graſſes are ſown at too remote a period from the fallow and dung; and conſequently, the benefit to be derived from them will be thereby conſiderably leſſened. I will not attempt to defend this ſyſtem from every objection; but ſhall only obſerve, that the farmer may ſometimes find it neceſſary to adopt ſuch a rotation on a part of his lands, from particular circumſtances, which not unfrequently occur in the management of a farm conſiſting chiefly of wettiſh ſoil; and I am of opinion, when a few years paſture are intended, that the ſowing graſs-ſeeds among wheat is not ſo proper as with a crop of barley. There can be no objection againſt ſowing them with wheat, when only one year's cutting or paſture is intended; but for two or more years paſture, I have no heſitation in ſaying, barley is the beſt crop to ſow down with. I am likewiſe inclined to hazard the aſſertion, that when the land is ſown down with fallow-wheat, and afterwards paſtured for three or four years, the farmer will often find it neceſſary to ſummer-fallow again after his lea-oats.

A great many more rotations might be mentioned, ſtrictly compatible with the well known law in modern huſbandry, 'not to have two culmiferous or white crops in immediate ſucceſſion,' which the judicious farmer will revolve in his mind, ſo as duly to appreciate their merits. But perhaps what I have already written is long enough, both for the reader and the writer. However, I flatter myſelf, it may be a means of exciting others of greater ability to turn their thoughts on the ſubject. I will therefore conclude, with recommending a change of the ſyſtem of cropping on the ſame farm, and I have no doubt the farmer will find his account in it. Suppoſing, for example, that the rotation has been, 1ſt, fallow; 2d, wheat; 3d, peas or beans; 4th, barley; 5th, graſs; 6th, oats.—Let another rotation be followed, where graſs is ſown among the fallow crop; and, in order to diverſify the ſyſtem of cropping as much as poſſible, it may not be improper ſometimes to take oats after fallow without dung, and apply dung to ſome of the ſucceeding crops. I remain, Sir, your conſtant reader, and a friend to your publication,

Eaſt-Lothian, February 1804. OBSERVATOR.

TO

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Thoughts on Turnpike-Roads and Road Acts.

SIR,

IT appears to me that diſtinct, clear, and correct ideas of a toll-road are ſeldom to be met with amongſt road truſtees. A toll-road is one that, by a particular ſtatute, is ordained to be made, and kept up from funds leviable by that ſtatute, and has nothing to do with any other funds whatever. If ſupport is drawn from any other ſource, it is not properly a toll-road. All converſions for ſtatute ſervices (as money in place of labour performed by our late road laws) it has nothing to do with. The money ariſing from ſuch converſion is, by all laws hitherto exiſting, the property of the pariſh it is levied in, and applicable only to the by roads within that pariſh. No road ought to be declared a toll-road, but ſuch great lines as go through ſeveral pariſhes. The converſion money ought to be appropriated to the making of the by-roads within its own pariſh, or, in other words, to the roads leading to the great or toll-roads, from different parts of the pariſh. This, I humbly apprehend, is a pretty clear and diſtinct idea of the two ſorts of roads, and of their reſpective funds, viz. toll-money of the one, and converſion-money of the other; and betwixt theſe funds there ought to be no connexion or interference. The toll funds are a *cumulo* ſum levied from bars erected at different parts of a great line of road, and to be laid out as the ſtatute directs, by which ſuch line is declared a toll-road. The converſion-money is a fund merely for making internal pariſh roads, by which the inhabitants are to get to the toll-roads. If the pariſh money is thrown into the toll funds, and made a *cumulo* ſum, and little or nothing allowed, on various pretences, for by-roads, great injuſtice is done the proprietor and his tenant; becauſe, though they pay toll equal to every one elſe, they pay converſion-money alſo, without having acceſs to the toll-road. Where nothing is allowed for the pariſh roads, that pariſh ought to pay no converſion-money. Why ſhould the poſſeſſor of land pay more than any other, and at the ſame time be in a worſe ſituation? This, however, is exactly his ſituation, when his converſion money is made a *cumulo* ſum with the toll-money, and the whole applied to the toll-roads, or to pay the ſooner the money at firſt ſubſcribed to make them.

There may, however, be roads neceſſary, and paſſing through more pariſhes than one, on which tolls would not yield money ſufficient to anſwer the idea above given of a toll-road, of main-

taining itſelf. Theſe ought to be left out of the nomination of toll-roads, and conſidered as by-ones, till ſuch time as the trade upon them will afford funds ſufficient to put them on the toll eſtabliſhment; each reſpective pariſh making its own part thereof from the converſion-money, till that is the caſe. It appears evident, that to apply pariſh money to any purpoſe, but within its own bounds, or even not to declare any line of road running through more pariſhes than one, a toll-road, as ſoon as it can afford to be ſo, is evidently unjuſt to the land poſſeſſor, and taxing him higher than any body elſe. A toll is an equal tax, becauſe every one pays in proportion to the uſe he makes of the road; and therefore, where there is a deficiency of funds for making or upholding a road, it is much fairer to increaſe the tolls, than lay it on the landholder, by raiſing the converſion-money by a new act of parliament, which has ſometimes been done. In ſome counties, diſputes have ariſen about the application of the two funds before mentioned, owing to thoſe concerned not having a clear and diſtinct idea of their nature; conſequently, their road acts are, in ſome inſtances, confuſed, contradictory, and unintelligible. The following ſeem to be the main points to be agreed upon, and perfectly equal and fair.

The great toll-roads ought to have their whole toll-money in a *cumulo* ſum, levied at ſuch places, and laid out on the whole line, as the truſtees ſhall think beſt for the public benefit.

The ſecondary ſort of toll-roads are thoſe which may require ſome aſſiſtance from the pariſh money, and ought to draw ſuch aſſiſtance from the different pariſhes they paſs through, in proportion to their length in each, until the tolls enable them to rank among thoſe of the firſt claſs.

The third ſort of roads, is the real internal pariſh roads, which ought to have, in preference to all others, the converſion money applied to them ſolely, unleſs where it may be thought for the public good to lend ſome aſſiſtance to the ſecondary roads, and that only with the concurrence of thoſe having the direction of the pariſh money, and within the pariſh only. As to the qualification of truſtees, there have been different opinions; but this, I believe, is now generally agreed upon. Some were for a ploughgate of land in property, and others for 100l. Scots as the rule. There is no doubt, that a perſon appointed by the laws of the land to lay on a land-tax as a commiſſioner of ſupply, has a complete right, by analogy, to be a truſtee, becauſe the former muſt be conſidered as the greateſt truſt of the two. But I cannot ſee how the commiſſioners of ſupply can exclude a ploughgate proprietor, when met to concert a road-bill, more than a man of 200, 400, or 1000 pounds Scots valuation, can exclude the

the commiſſioner of ſupply, which ſeems now the rule in truſtee making. At any rate, the pariſh money ought to be entirely under the management of the proprietors and farmers of the pariſh, who generally will be found excellent truſtees, reſiding on and farming their land, and up to every neceſſary kind of knowledge for executing the truſt; more ſo, often, than the great proprietors reſiding at a diſtance, or thoſe taken up with very different purſuits.

Gentlemen, I wiſh the foregoing, or ſomething like it, to appear in your next Number; for you are at full liberty to uſe the file as you pleaſe. You may either eke, pare, or burn. I am your ſincere friend, and conſequently a friend to my country,

February 1804. FLAMINIUS.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On Extirpating Whins and Broom.

SIR,

EVEN ſmall matters are not below the notice of attentive agriculturiſts; and though the ſubjects I now write upon, ſeedling plants of whins, or furze, and broom, be in themſelves ſmall, their conſequences are far from unimportant. 'A ſtiek in time, ſaves nine,' ſays an old Scots proverb; therefore, I hope the trifling attention recommended in the following ſlight communication, may be found really to ſerve the huſbandman very materially. The practice which it is meant to exemplify and recommend to others, originated with me from another old proverbial ſaying,

'How broom, hae broom;
Pow broom, nae broom.'

A few years ago, I improved, by turnip fallow, lime, and dung, a dry field on my farm, much overrun with the above ſhrubs. Immediately after the turnips, eaten by ſheep on the ground, the field was ſown up in graſs with the barley crop, and ſucceeded to a wiſh. Numberleſs ſeedlings of whin and broom, however, made their appearance in the ſtubble; many of which I pulled up during harveſt. As my intention was, to reſtore fertility to a piece of land that had been long ruinouſly overcropt, I paſtured with ſheep the firſt year; and ſoon perceived the graſs to be infeſted with vaſt quantities of whin and broom plants. As my ſmall flock of ewes and lambs were paſtured in that field, it became my daily reſort; and almoſt every day,

I amuſed myſelf, more eſpecially after rain, with pulling up the young plants. This happened laſt year, 1802; and, being tolerably diligent, I was ſo fortunate as not to leave, as far as I know, one plant behind; for in all my walks this year, 1803, in the ſame field, and uſed for the ſame purpoſe, I have never been able to find a ſingle plant. The graſs continuing excellent, I mean to paſture a third year; and afterwards to throw it into the general rotation of my farm. I certainly do not expect, next time it is thrown into graſs, to find this field free from whins and broom; but I ſurely expect to find the numbers of theſe plants much diminiſhed; at leaſt, I have prevented, with certainty, any additional ſeeds being communicated to the ſoil.

I happen to be in a proverbial humour, and beg leave to recommend, to the attention of my brother farmers, an old ſaw:

'Once ſeeding cauſes ſeven years weeding.'

This is a text upon which many excellent agricultural ſermons might be compoſed; and, for one of theſe, the ſubject of this apparently unimportant communication is no bad illuſtration.

From my own perſonal experience, in the field of which I now write, I am perfectly ſatisfied that a child of ten years old is capable, in a very few days, after a good ſoaking rain, to pull up as many ſeedling plants as uſually grow upon twenty acres of land. After the land is brought into that ſtate of fertility as to undergo a regular rotation, along with the reſt of a tillage farm, this practice may not be ſo neceſſary; as tillage, eſpecially the fallow break, will undoubtedly kill theſe ſeedlings, before they can run up to ſeed. But I will now venture to lay down the fouleſt whinny or broomy knoll in Britain, into permanent graſs; and free it, with certainty, from whins and broom, in two or three years, for half a crown the ten acres.

Merſe, November 1803. *R. r.*

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On Steeping Wheat.

SIR,

OBSERVING, in laſt Magazine, a paper 'On the Smut in Wheat,' ſigned A. S., wherein the author, after quoting an experiment by Sir John Call, concludes with an opinion, that waſhing or pickling is no remedy againſt this baneful diſorder; —In contradiction of which, I can, from nineteen years experience, avouch, that I ſcarcely ever ſowed the end of a ridge with dry

dry (for want of ſteeped) ſeed, without its being tinged with ſmut; while, by ſteeping the grain, I never had a particle worth notice.

The practice, where I reſide, is to obtain, annually, from Mark-lane (at an extravagant price no doubt) as many quarters of Eſſex or Kentiſh ſeed as are likely to yield ſufficient increaſe for the number of acres to be ſown the following ſeaſon, and to avoid any in the ſmalleſt degree hurt with ſmut; to dreſs the ſeed remarkably well; and, in the evening before ſowing, to pour it ſlowly into caſks three fourths full of ſea water, ſtirring it about, and ſkimming off all the light grain. Among this water it remains during the night; and, next morning, is *dript* in carts, and ſown, after being mixed with as much ſlacked lime as make it part. This, to any perſon who, among his neighbours, can obtain a ſufficiency of caſks, and not a great way from the ſea, is by no means an expenſive proceſs; as the ſame water, except what the wheat imbibes, may be kept, and uſed for a ſecond and after ſowings. The practice is attended with this further advantage, that while grain, ſo ſteept, will, to a certainty, vegetate ſooner than if ſown dry, or when ſprinkled with urine, it is in no danger of having its vegetative powers deſtroyed, admitting it remains among the ſea water for ſome days, ſhould the ſowing be impeded by froſt or rain.

W.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On Scooping Potatoes for Seed.

SIR,

HAVING often heard your quarterly Publication, 'THE FARMER'S MAGAZINE,' recommended as containing much uſeful information in agricultural concerns, I was induced, a few days ago, to purchaſe the two laſt years publications; and muſt in juſtice ſay I am not diſappointed. There is one caſe, however, treated of by a number of your correſpondents in 1802, which, I am aſtoniſhed to find, differs ſo far from the practice I have had; I mean, ſcooping the ſeed from the potato. From all the information I have ſeen in your publication, there is only one inſtance where it is ſaid the ſcooped ſeed was a good crop, viz. at Powderhaugh; and your correſpondent A. S. is not certain but the crop might have been better, had the ſeed been cut in the ordinary way.

In ſpring 1801, when the circumſtance of ſcooping out the eye came to be firſt talked of, I conſidered the ſubject with particular attention, and was ſo far convinced of its utility, that I planted upwards of three acres with ſcooped ſeed; and ſaved nearly two thirds of the whole weight. * My expectations were fully realized; for I had an excellent crop, ſomewhat more than ſixty bolls per Scots acre, weight 42 lib. Engliſh per peck.

I planted only a few cut in the common form, to ſee if there was a difference or not; and, if a difference, whether it was in favour of ſcooping, or common cutting; and the conſequence which followed, made me conclude in favour of the former.

My ground was prepared in the ordinary way; was three times ploughed; and drilled at the diſtance of 2½ feet, the dung being ſpread in the drill along with the ſeed. I have continued to cut all my ſeed in that way ever ſince; and though my crops have not theſe two laſt years been ſo prolific, it is owing to the ſeaſons, not the ſeed; for they were not inferior to thoſe of my neighbours. Having ſaid ſo much in favour of ſcooping out the eye, contrary to what has been repeatedly reported, it will be neceſſary to ſtate where, or upon what grounds I found my argument; which I ſhall do in as few words as poſſible.

Every perſon will allow, that there are ſmall fibres connected with the germ—ſo imperceptibly ſmall indeed, that ſome of them cannot be diſcovered with the naked eye—which are the cauſe of vegetation. Theſe ſmall fibres ſpring from the centre of the potato. The greater the length of thoſe fibres that can be preſerved, or left attached to the germ, there is the more certainty of the plants taking root in the ſoil; and I do inſiſt, that the dormant part of the potato, abſtracted from the germ and its appendages, can have no effect on its vegetative principles. Like all other ſeeds committed to its parent earth, that part which is not of a vegetative nature very ſoon decays, and leaves the plant, in its earlieſt infancy, to be nouriſhed and brought to perfection by the ſame cauſes which produce vegetation in every other ſpecies of plant.

Take, therefore, two potatoes of equal ſize, ſay 2½ inch in diameter. With the ſcooping inſtrument deſcribed, take ſix ſeeds from the one; with a common knife, take ſix ſeeds from the

* I uſed inſtruments for cutting, of different conſtructions; but the one I moſt approve of, is made in form of a punch ſpoon, ⅞ inch wide, ⅛ deep, rather narrow to the bottom. With ſuch an inſtrument, you will eaſily cut out the ſeed ⅞ inch deep.

the other; and you will find thoſe taken out with the ſcooping inſtrument go much nearer the centre, than it is poſſible to do by means of the common knife. If ſo, I hope my argument is fully proved. I am, &c.

Netherplace, 24*th Jan.* 1804. R. H.

P. S.—It occurs to me, that conſiderable improvement might ſtill be made in the mode of ſtraighting ridges. I ſhall, however, defer ſaying any thing on that or any other ſubject, till I ſee if you look upon what is already written as common ſenſe: beſides, I am afraid I have already intruded upon your time.

R. H.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Obſervations on the Fen Huſbandry of Cambridgeſhire.

SIR,

I HAVE taken in your Magazine from its commencement, and think it an object of national utility, and well deſerving of all the encouragement which it has obtained. I thought to have been your firſt correſpondent from theſe parts, and had in ſome degree prepared materials for that purpoſe; but buſineſs of more immediate importance delayed the forwarding of them, until a perſon, at Chatteris, I find, has got the ſtart of me.

This correſpondent has ſent you a ſtatement of the annual rotation of fen lands, and average produce thereof, ſo far calculated to miſlead, that I think it an object of ſerious conſequence it ſhould not paſs unnoticed and uncontradicted. In the *firſt* place, in ſtating the value of *coleſeed*, * it is certainly very improper to ſet down the higheſt price that could be obtained for a particularly good crop, in the deareſt year that ever was known. It is true, that the crops of laſt year were not on an average; but, on the contrary, very much below it. It is no new doctrine, that ſcarcity begets high prices: however, the direct cauſe of the dearneſs of coleſeed, the laſt ſeaſon, was the exceſſive drought and ſhortneſs of the paſtures, at ſo late a period of the year, that there was no proſpect of keeping ſheep in a tolerably good condition in the fens

 without

* The *rape* plant, provincially called *coleſeed*, when a green crop, though improperly, is ſometimes curtailed, and called *cole*.

without it; and turnips in the high country were dear in proportion. Notwithſtanding all this, I believe the *average* price of coleſeed, laſt year, in this diſtrict, did not exceed 4l. The neighbourhood of Chatteris will by no means ſerve for a true medium of the fens in general (the land there being deeper and richer than many other fens); though, even in that neighbourhood, ſome graziers from a diſtance bought good *average crops* at 4l. and under. A number of facts in this particular came within my own knowledge; even there was coleſeed, laſt year, ſold in the neighbourhood of Chatteris, ſo low as 30s. per acre.

The anſwer to the *ſecond* query is equally vague and deluſive. The crop *commonly produces* from 30 to 42 buſhels per acre; 84 buſhels is a produce which I never heard of; and, though it may be believed in Scotland, it will gain very little credit in theſe parts. The gentleman's object (who is clearly not a practical agriculturiſt) ſeems to be, to adviſe the cultivation of coleſeed. As a green crop, it is certainly a *valuable* object; but he ought to have added, that it will ſucceed only on fen land, or a rich loam that lies low. I have ſeen attempts made to raiſe it on uplands; but they have generally failed. Another thing he ought by no means to have omitted, is, that if ſuffered to ſtand for ſeed, it is ſo exhauſting a crop, if a full one, or makes the land ſo extremely foul with weeds, if not, that it is totally interdicted by the proprietors of ſeveral large eſtates hereabouts.

The remaining *items* of the *annual rotation* are completely miſtated, where any ſyſtem prevails. It is true, that there may be, here and there, a ſmall piece of land (which muſt have for many previous years received a great deal of manure beyond its ſhare), that might bear ſuch a rotation once in half a century; but, to give ſuch an account as a general rotation of fen lands, and ſuch an average of produce, is altogether without foundation. Surely the gentleman does not mean to inſinuate, that if mowed for hay the ſixth year, and then ploughed and burnt, that it would bear the ſame rotation again!

The fens of Cambridgeſhire may be thus characterized. Though the term *Fen* applies to the whole, the land is not perfectly flat, nor by any means of one kind and quality; there being a conſiderable diverſity of ſubſtrata, and difference of elevation, with reſpect to the water level. The loweſt land is a very light ſoil, the ſubſtratum peat, about 2 feet in depth, lying upon a congeries of roots and fibres called *bear's muck*, (or *now* more generally upon clay, the other having principally diſappeared, owing to circumſtances in the *natural hiſtory* of fens, which need not be here deſcribed) This is the proper definition of real fen land; and of this kind is a very great proportion of the fens

of

of Cambridgeſhire. But there is, notwithſtanding, a very great difference in the quality of this ſame deſcription of ſoil; in depth, in richneſs, in elevation, and the advantages of drainage. The fens of Chatteris and March, I believe, are by far the richeſt tracts of this ſort of land.

Of the ſecond-rate land, the ſoil is ſtill lighter, and in all reſpects inferior for cropping, but ſweeter for paſturage; it is only reckoned ſecond-rate on account of its elevation, for a reaſon which applies to its natural hiſtory, as before obſerved. The ſubſtratum of this is a very hard brown peat, about 4 inches thick, incumbent upon a ſtiff clay, which is now in many places within reach of the plough. A great proportion of Thorney-Fen, for inſtance, is of this deſcription; the ſoil is extremely permeable to the rays of the ſun, and therefore quickly affected by drought, which alſo divides the peat into angular pieces, and, when exceſſive, rends the clay alſo to the depth of 3 or 4 feet; through theſe fiſſures the ſoil gradually percolates and trickles down, looſened by the treading of cattle and other cauſes, and leaves the ſurface of the land very uneven.

Land of the firſt-rate, is a rich black loam, with a ſubſtratum of mild clay, and in ſome places *ſilt*,* without any intervention of peat. This land is fit for paſture, and of more value for grazing than the plough; for though it might produce plentiful green crops, the white crops would run more to ſtraw than corn. When ploughed, for the purpoſe of improving the paſture graſſes, it is very ſeldom burnt; the firſt crop is oats; the ſecond year well fallowed, to deſtroy the couch-graſs or twitch, and ſowed early in July with coleſeed—being, with the fallow, generally well dunged. The beſt method of returning it to graſs, without loſs or deterioration, is to ſow it the following ſpring with graſs and clover ſeeds, &c. with ſpring wheat. It is a doubt, even with this magagement, whether the land, for the purpoſe of feeding large cattle, is much improved;—for the purpoſe of feeding ſheep, it certainly is: But to be thus renewed once in half a century is certainly enough.

With reſpect to the ſecond-rate land, it is firſt ploughed and burnt, and the firſt crop is uniformly coleſeed, as your Chatteris correſpondent obſerves. The ſecond year generally oats, or ſpring wheat. The third year oats. The fourth year (if graſs ſeeds are not ſown with the ſecond crop of corn) the land is fallowed for coleſeed. The fifth year, oats or ſpring wheat with graſs ſeeds. This may be taken as the general rotation for fen lands; adding, that the graſs continues from five to ten years, either mowed

* Originally ſea-ſand.

mowed or eaten as occaſion may require. It may, however, be remarked, that though two white crops are here put in ſucceſſion, ſkilful agriculturiſts agree, that in order effectually to prevent deterioration, it would be better to take but one.

The management of the third-rate land differs in nothing that is material, excepting that, as the paſturage is of leſs value, it is not uſual or requiſite to let it remain ſo long in graſs.

The average produce of oats per acre cannot be rated at more than ſix quarters, or at the moſt two thirds of a laſt, or 56 buſhels; and of wheat, not exceeding three quarters, or 24 buſhels. I do not ſpeak of a ſingle inſtance of remarkable produce; a laſt of oats per acre may have been obtained on ſome particular pieces of land, and on others 32, or even 36 buſhels of wheat; nor do I mean to ſay, that what the gentleman has ſtated may not be in itſelf true, at Chatteris. But the inference to be drawn from it is not true;—it is not true of fens in general. In a word, it is phyſically impoſſible that any land ſhould bear ſuch a rotation, and ſuch a produce *ad infinitum*; without which, the ſtatement cannot be called an *average*:—and why he has attempted to make it appear ſo, he beſt can judge. His anſwer to the queries, which he ſtates to have been ſent to him, may amuſe; but they certainly tend to miſlead, and they cannot be admitted by one who is really

A Fen Agriculturist.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Query reſpecting the advantages of Encloſing of Land.

Sir,

If you have a ſpare corner in your Magazine, do me the favour of ſubmitting the following Query to the conſideration of your correſpondents. The encloſing of land is a ſubject of much importance both to proprietors and occupiers of land; but I am inclined to think, that much money has been, is, and ſtill may be, needleſsly expended in attempts to carry it into execution.

Query—Suppoſe a diſtrict naturally adapted to the growth of corn, and in which tillage forms the principal object, Is it the intereſt of proprietors and occupiers to encloſe the ſame with hedges, or ſtone walls, and will the expence thus incurred be reimburſed by the ſubſequent advantages?

I am yours, &c. Mago.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On Storing up Turnips for Winter Conſumption, &c.

SIR,

IF the following thoughts on various ſubjects of rural œconomy, are worthy of notice, they may be inſerted in your Miſcellany.

1. In regard to the ſtoring up of turnips through the winter, let them remain in the ground as long as they will not be hurt by froſt. As a very little froſt is prejudicial to them when ſtored up into heaps, more particularly when they get froſt after they are topped and tailed, and lying in the ridges, the ſure way is to carry them from the field immediately. In topping them, do not cut the ſkin off the turnips, either on the top or tail. Where the ſkin is broke, it always rots firſt. When a little of the top is left, it will be more apt to vegetate; and they are better to grow than rot: But to prevent both is beſt, if poſſible, as they then retain more nutritive qualities. The ſize of the heaps in which I find them keep beſt, is, the breadth five feet, the height four, tapering from the bottom to the top of the heap: the length of the heap cannot hurt them. I have had heaps from 15 to 60 feet in length, and found no difference in keeping them equally well. Be ſure to keep them on the ſurface of the ground, as they have there more air, than when partly above and partly below the ground, as I found by experience four years ago. I cover ſome of the heaps with divot, caſt and winnowed in ſummer: the drier they are, ſo much the better. Other heaps I cover with ruſhes half a foot thick. When the froſt ſets in, take ſome of the rankeſt horſe-dung, and put over the ruſhes: this preſerves them from the ſevereſt froſt that we have in this climate: but I never do ſo till the froſt is ſevere. In this way I have had them as good, to appearance, at the firſt of March, as when taken from the ground, although, undoubtedly, they muſt have loſt ſome of their nutritive qualities.

2. In regard to Swediſh turnip, I could never buy ſeed that anſwered ſo well as that which I raiſed myſelf; they always run to runts, and never apple at all. I could never diſtinguiſh the good ſeed from the bad; neither do I believe it poſſible to be done by any perſon whatever. Sow them three weeks before the common turnip. When the ſeed is ſown for tranſplanting, it muſt be done as ſoon as the ſeaſon for ſmall ſeeds ſets in, or about the time of ſowing kail ſeed in the garden, as then they grow better. I always tranſplant a part, and then I have two chances.

chances. In a dry ſeaſon, the tranſplanted are beſt; in a rainy, I know no material difference. Never tranſplant them but on new-formed ridges, which ought always to be previouſly rolled in the ſame way as for ſowing the common turnip. The only advantage ariſing from tranſplanting is that, when the ground is not ſo very well prepared as it ought, it gives three weeks longer time for the preparation of the ground, which in dry weather may get two more furrows, it being impoſſible to pulverize the ground too well for ſuch a ſmall ſeed. To give the annual ſeeds an opportunity of vegetating, I always harrow immediately after ploughing, and very often have the harrows going before the field is all ploughed. Though this practice be as yet adopted by very few beſides myſelf, I hope ſoon to ſee every farmer in the country, for his own intereſt, follow the example. Rolling is abſolutely neceſſary before ridging, as it defends from drought better than as left by the harrows. Rolling is not a very tedious operation. To roll a week before ridging, you will have a fine braird of annuals, which the ridging kills entirely. Theſe operations are not yet univerſally known with us; but I can aſſure you they are abſolutely neceſſary for a good crop.

3. I would not adviſe to riſk a whole crop of Swediſh turnip, as the quantity is in proportion as 3 is to 5 in favour of the common turnip. For milk cows, the Swediſh, however, are nearly equal; they give the milk a better taſte, and the butter an excellent colour—nothing ſhort of July. I fed a colt laſt winter with this root, and am now feeding him this winter alſo; and he is in as thriving a condition as if he had got four feeds of oats per day—giving him plenty of ſtraw always.

I received a ſmall quantity of your Swediſh turnip-ſeed, for which I am much obliged to you. You'll pleaſe accept of a little of mine, of crops 1802 and 1803. I always find that old and new ſeeds ought to be ſown together, and that, as the new comes up two days ſooner than the old, the plants may thus be ſaved from the depredation of that ſmall inſect which devours them greedily as ſoon as they appear; but the danger is over when we get rain.

I am very happy to hear that your ideas and mine correſpond with regard to ſeeds being adulterated, by their proximity to one another when in bloſſom. I have alſo obſerved that the bloſſom ſtanding neareſt the ſouth, is not ſo apt to be infected, as that on the north ſide: Of the former, the bloſſom always expands to the ſun; and that on the north is more ready to receive the *farinæ* or duſt, by the ſouthern gales, which often happen on a ſun-ſhining day. Some may ſay that bees carry the duſt to the

the south, as well as to the north; but, so far as I have observed, the north standing blossom is most infected.

I plant early potato on the south side of the field, and by that means have sowed a good early potato for seven years together. I have tried them on ridges alternately with other kinds, and could not then preserve them free from adulterating two years. As some may think that my ideas with regard to potatoes are chimerical, I should like to know your sentiments on the subject.

With regard to Swedish turnip, the quality is certainly much superior to that of the common kind. When given to cattle in the autumn, they cannot eat so many of them, being then so hard that the animals must stand longer on their feet before they are satisfied with eating, which is hurtful for feeding: The more the animal rests, so much the better. If they are to be kept till spring, the balance preponderates in favour of the Swedish, because few or none are hurt by the frost; and they always retain their nourishment, whereas the common turnip loses greatly.

I have stored up the one half this year, and left the other half in the field; and shall be able in two months to answer your query respecting which method answers best. I am inclined to think that those in the field will be best kept, as what were taken up in November are springing more than the common turnip, which will undoubtedly rob them of their nutritive qualities. I have not been much troubled with hares this year, nor last; and having a greater quantity of turnip sown, the damage is not easily distinguished till it is taken up.

As to the propriety of fatting cattle with them in the spring, I have had no experience. I always kept them for milk cows, and can only say that the Swedish are far superior to the common turnip for milk and butter in the spring.

The quantity which I give my colt this year, is from 16 lib. to 20 lib. per day, Dutch weight, in the morning before watering, and at night before watering, but he drinks very little. I chop them into slices, and put a handful of meal seeds amongst them. The meal being completely separated from the seeds or husks of the oats, before mixing with the turnip, without a handful of seeds, they make him laxative.

I tried Lord Meadowbank's composition of dung and moss last summer, and have given it a fair trial with other composts of lime and moss, and lime and earth, on the same field. To do justice to his Lordship, the fermentation took place, almost to an hour, in the beginning of July last. What I did not believe,

lieve, in reading his Eſſay, was, that the damper the moſs, the fermentation would come the ſooner; though this really happened. The moſs was equally as good for fuel as any moſs in the kingdom, being a very hard, black peat, when dried. If the compound anſwers as well in the end as at the beginning, I mean, for a good return of crop, it will be the moſt valuable ſubſtitute for manure that has yet been diſcovered in our iſland, as moſs every where abounds. I am yours, &c.

A Lanarkshire Farmer.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the Working of Oxen.

Sir,

Ox-draughts for ploughing and other branches of huſbandry, were univerſal in Northumberland about ſixty years ago. Two oxen were yoked behind a pair of horſes, and theſe oxen were changed every yoking; ſo that four oxen were, at intervals, attached to one plough with a pair of horſes. Theſe ploughs were driven by a boy. Since that period, ploughs of a lighter conſtruction, ſimilar to thoſe now in uſe, were introduced into this county, to be worked with a pair of horſes only, and without a driver. In a ſhort time they entirely ſuperſeded the horſe and ox-ploughs, as, without a driver, they performed more work in general than the other draught. A few, and but a very few farmers have of late adopted the ox as an animal of labour by himſelf. They are chiefly uſed, I believe, in carting at home.

Your noble correſpondent, Lord Somerville, has, in the 15th Number of your Magazine, favoured us with an account of his ox-ploughs, which ſurpaſs in activity any thing I have ſeen or heard of. Five acres, *well* ploughed, it muſt be ſuppoſed by the *ſame* pair of oxen, in a week, is certainly a great performance. His Lordſhip, however, does not notice the kind of ſoil on which they are employed, whether ſtony, clayey, or hilly. The nature of the ſubſoil is alſo material. Of the former kind of ſoil, the degree of labour in the working animal is deeply affected by the poſition and ſize of the ſtones, and by the kind of ſtuff, as miners term it, in which they are placed. If this be a hard binding clay, the ſtrength of the labouring creature to force forward the plough, muſt be proportionally greater. A ſtiff clay to work in, and ſtill more if placed on ſteep acclivities, and on a hard or ſtony ſubſoil, will form weighty conſiderations

tions with the farmer, in rating truly the work of oxen, and, consequently, in enabling him to appreciate justly its value.

His Lordship adds, that 'his work is done at the rate of about 80 acres of tillage to four oxen,' or 40 acres to one pair. At the rate of five acres *per* week to one pair of oxen, the labour of these beasts at plough, will be finished in a couple of months. Are they in the other ten months also *fully* employed? Do they, in the intervals between their ploughing, from March to September inclusive, perform *daily* work equal to the eight weeks they are employed in ploughing? Are they applicable to the whole work of the farm? Do they carry forward winter-ploughing as quickly, according to the length of the day, and *poach* the land *as little* as horses do? Can they be used as safely as horses in carrying corn to market? Are they as little liable to be lamed? If these things, upon a strict investigation by his Lordship, be so; and if, in jobbing work in the winter months, their labour keeps pace with that of horses in the proportion of six to five, (*i. e.* if six pairs of oxen will execute as much work on a farm *throughout the year*, as five pairs of horses of equal weight) then the question in favour of the former draught cattle, will appear to receive a complete decision.

I am, Sir, your obedient servant,

*** J.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

A Cure for the Black-Spald in Calves.

SIR,

Being much disappointed to find that a query, by your Berwickshire correspondent, of 19th January 1803, respecting the *black-spald* in calves of a year old, has not been answered by some of your numerous readers, I humbly presume to offer my mite, hoping, if it be not useful in itself, it may be the means of inducing some abler writers to handle a subject of so great importance to breeders of cattle. What is called the black-spald in Berwickshire, I apprehend to be the same disease that, in this country, is called the *quarter-ill*, or ill-trouble. It is most common to year olds that are in good condition; but I have seen it seize cattle of five years of age. The certain symptoms of the disease are lameness in one of the feet, loathing of food, and, in a short time, some part of the affected leg or shoulder, when the skin is drawn up between the fingers and thumb, will crack

and

and make a noiſe like a piece of dry ſkin that is preſſed between one's hands. Twenty-four hours of the diſeaſe commonly does the buſineſs; but I never ſaw any that died, ſurvive thirty-ſix hours.

The firſt cure for this complaint, that I ever ſaw performed, was on an ox of four and a half years of age. As he was going in the plough, I obſerved him a little lame in one of the hinder feet. At firſt I thought he had trampled upon a ſtone; but as it ſtill grew worſe, I ſoon ſuſpected it was the quarter-ill; the more ſo, as there was a good year old died of that diſorder three weeks before. By the time he was got to the byre, the crackling between the ſkin and the fleſh was very perceptible on the top joint of the off-ſide hinder leg. As our blackſmith had ſome ſkill among live ſtock, he was inſtantly ſent for. The firſt thing he did was to take a little blood from a vein in the neck. He then pulled the ſkin from the fleſh, on the part that ſeemed moſt pained, ſtill keeping the beaſt walking as much as poſſible. He then cauſed cold water to be poured in large quantities on the part affected, ſtill rubbing and keeping the ſkin looſe on the affected part. Finding the ſkin adhere much to the fleſh, he then made three cuts with a penknife, two inches long, into which he rubbed ſalt and water. In this manner he continued four hours. The one time driving him, then pouring on water, rubbing in ſalt, and looſening the ſkin from the fleſh. By this time he was not near ſo cripple, and began to take his food. We were ordered, however, to keep him in motion all night, and in the morning he was well for his food, and never had any more ſigns of the diſeaſe. Since that time, I have followed the blackſmith's practice, and have often been ſucceſsful. Only, inſtead of pouring water on the place, I faſten a rope about the beaſt's head, and take it to a deep pool, cauſing it ſwim up and down, and then drive it, frequently giving it an ounce, or half an ounce of laudanum, according to the ſize or age of the beaſt, but I never did cut the ſkin. I have good reaſon to believe that the above method has been the means of curing ſeveral of my own young cattle, as I never ſaw any that took that diſeaſe, and no means uſed for their recovery, but died; thoſe I opened, had all the blood collected in the affected quarter. I find it more difficult to cure in the fore quarters than in the hinder; and if it ſeize the bowels, I hardly think that it will cure by any means.

The following recipe was given me lately, as a cure for the above diſeaſe; but as I never tried it, can ſay nothing to recommend it. Diſſolve a large handful of ſalt in eight gills of water. Looſen the ſkin on the affected part, as recommended above. Pierce an awl or boringſtob through the cartilage between

tween the noſtrils; then put half of the ſalt and water over the beaſt's throat; put half the remaining water and ſalt into one of its ears, keeping the ear cloſe with the hand, and the remainder into the other ear; then keep both ears cloſe, ſo that the water may be kept in for about a minute or ſo. If the beaſt ſhake its head vehemently when let looſe, it is out of danger. The above quantity is a proper doſe for a year old; for a full grown beaſt double the quantity may be adminiſtered.

No. XV. contains a note by you, ſaying, that the ſcab in ſheep is eaſily cured by tobacco liquor and ſpirit of tar. As that diſeaſe has been very common and deſtructive in this place, for ſeveral years paſt, it would be doing an eſſential ſervice to many readers, to point out, through the channel of your valuable Magazine, the proper quantity of ſaid medicines per ſcore or hundred; what preparation is neceſſary; how, and in what ſeaſon, the application can be made with moſt advantage and ſafety.

In June laſt, I meaſured nine bolls of oats, weighing 14 ſtone 2 pound each. They were carefully dried, carried to the mill, and made into meal. The produce from ſaid corn was 6 bolls 14 pecks, at nine ſtone of meal per boll; in other words, they yielded 12¼ pecks of meal per boll of oats. As I think there is a great defect in our mills, or millers, in this part of the country, would be glad to know what quantity of meal a given quantity of oats produces in other parts of the country, where machinery and millers are good. The ſeeds of the above meal were as clean as it was poſſible to make them. The gentlemen in this place have not as yet availed themſelves of the advantages of the thirlage bill. The old practices continue. Every perſon is bound to grind his crop at a certain mill, where multures, knaveſhip, and miller's meal, with the ſeeds thereof, are all paid in kind.

Servants wages have been higher this year than at any former period. The higheſt priced ſervants (though not always the beſt) get 7l. 10s. this winter half year; ordinary hands 5l. to 5l. 10s.; boys from 3l. to 4l.; maid ſervants from 30s. to 33s. They have all been aſking ſtill higher for the enſuing half year. Women, for the time of harveſt (which, in ordinary ſeaſons, is performed in ſix weeks), are aſking 40s.; and men from 3l. to 4l. Nothing but ſcarcity reduces wages here, and there is a probability of that being not very diſtant. We have no labourers; but all our work done by ſervants maintained in the maſter's houſe. Thoſe who have crofts are above hiring for day's wages. I am, with reſpect and eſteem, your very humble ſervant,

W. CRAIGIE.

Belnaboth, Aberdeenſhire, 24th April 1804.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

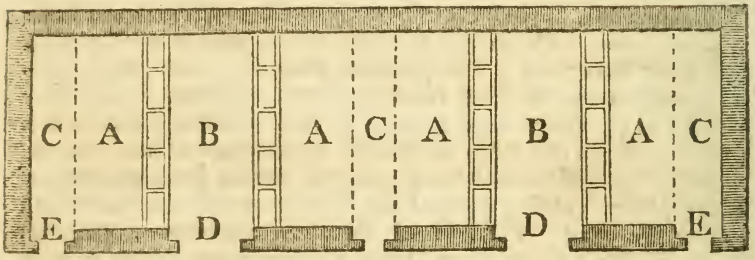
Plan of a Feeding Byre.

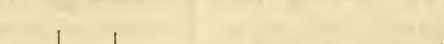
SIR,

EXPECTING to have ſeen in your Magazine a deſcription of a complete farm-ſteading, as promiſed in No. XI., I deferred ſending you the following plan of a feeding byre. I do not diſpute the uſefulneſs of Mr Hunter's at Elkmount, but cannot ſubſcribe to that part of the concluding paragraph where it is ſtated 'that there is no part of it either unneceſſary, or in any way more than uſually expenſive.'

The following is, in my opinion, *more convenient*, and much *leſs expenſive*.

PLAN OF A FEEDING BYRE.





This byre, 60 feet long by 18 feet wide, will contain twenty cattle, ſtanding acroſs the houſe with their hinds towards each other, and leave a ſpace between them for laying up the turnips. A A A A are the four ſpaces for the cattle, each containing five, and may be fitted up with cribs, or ſtone troughs, according to Mr Hunter's plan. B B are the two ſpaces for containing the turnips, each 8 feet wide, and are divided from the cribs or troughs by a ſtrong wooden partition, or thin party-wall, of about 3 feet or 3½ feet high. The doors D D are wide enough to allow the cart with the turnips to be backed in and turned up. The turnips are thrown to the cattle over this low wall or partition. C C C are paſſages of 4 feet wide, behind the cattle, for cleaning out the dung by the doors E E E.* If a particular

* The engraver of the Plan having omitted to mark the centre door with the letter E, the reader is requeſted to ſupply the omiſſion with his pen.

ticular ſituation ſhould make it more convenient, the large doors may be placed in the back of the byre.

This plan is not ideal, but has been acted upon in ſeveral farm-ſteadings in Roxburghſhire, and will contain *double* the number of cattle which Mr Hunter's byre does, and with a *leſs* quantity of walling, and as little (if not leſs) roofing. They are fed and cleaned with equal eaſe; and the urine may, with equal convenience, be conveyed to a compoſt dung court.

The dimenſions of Mr Hunter's byre, not deducting the doors, are,

Length of back wall - -	60	feet
Front wall - - - -	44	
One end wall - - -	16	
Outer wall of turnip barn -	27	
Inner do. - - - -	27	
Total length of walling -	174	feet
The above plan, 2 walls of 64 feet each -	128	
2 ditto of 18 - -	36	
	164	total;

being 10 feet of leſs walling than Mr Hunter's, and excluſive of the party-wall between the court of offices and the turnip barn in Mr Hunter's plan.

Were a byre conſtructed on Mr Hunter's plan for twenty cattle, the inconvenience of having the turnips in a barn at one end would be ſeriouſly felt, and would occaſion part of them to be carried *in a baſket* not leſs than the diſtance of 80 feet. But ſurely Mr Hunter's ſervant muſt have found, even for his ten cattle, a wheelbarrow to be a much better conveyance.

In a farm where only ten cattle are fed, the plan I ſend you is alſo very convenient. For five feeding cattle being placed on one ſide of the turnip ſpace, and five young cattle, or milk cows, on the other ſide, the green tops or ſhaws of the turnips may be thrown on one ſide to the young cattle, and the roots on the other ſide to the feeding ones. No doubt, this plan will not admit ſuch a quantity of turnips, proportioned to the number of cattle, to be laid up as in Mr Hunter's; but the ſpaces for the turnips may be increaſed, if neceſſary, by adding a few feet of length.

Turnips may alſo be preſerved in the field as well as in a houſe, in the following eaſy method. Cut off their tops and roots, and lay up the turnips in heaps of three or four cart-loads each; cover them with earth, or with ſtraw and earth, in the ſame way as it is uſual to preſerve potatoes, and they will keep fully as long, or longer, than they will do in a houſe. This

method is eligible in high ſituations, where turnips are very liable to be deſtroyed by froſt; and in any ſituation it is convenient to have a few preſerved in this manner, which may be uſed when the froſt is too hard to allow them to be taken up from the field. I am, Sir, your conſtant reader,

Roxburghſhire, 1804. S. E.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Anſwer to Arator's two Letters on Thraſhing Machines.

SIR,

IN your laſt volume, page 128, Remarks are made on my *Letter on Thraſhing Mills*, Vol. III. p. 428, for my having preſumed to claſs Mr Meikle's name with that of Mr Cotterel, in deſcribing ſuch thraſhing mills as had come to my knowledge. Never having ſeen any thraſhing mill erected by Mr Meikle, I certainly could not pretend to give a deſcription of its powers; and my reaſon for expreſſing my uncertainty of who the real inventor of the machine now in uſe was, originated from a communication in the Agricultural Magazine, which ſtated, that, in an action raiſed againſt a Mr Raſtrick of Northumberland, for an encroachment on Mr Meikle's patent, the jury found that the thraſhing mill was not entirely the invention of Mr Meikle.

My wiſh was, through the medium of your Magazine, to inform ſmall farmers, who form rather the moſt numerous claſs of that body of men, that a machine of a ſmall ſize, and at a very moderate expence, could be erected; and, notwithſtanding the opinion of Arator, I will take the liberty of ſaying, that both the machines I have uſed, thraſh the ſtraw as clean as any machine can do. One corroborative proof of the fact is, that numberleſs machines in the north country are erected, and many more in the courſe of being erected, upon the very ſame plan, and nearly of the ſame dimenſions, as the one I at preſent uſe.

I do not pretend to be a firſt-rate mechanic; but it does not appear to me, from the deſcriptions that have been publiſhed of Mr Meikle's machine, that it requires very great mechanical knowledge to comprehend its powers; though the real inventor, whoever he was, had certainly very great merit. I muſt alſo beg leave to inform Arator, that I received my information in the year 1782, of the exiſtence of thraſhing mills in Sweden, from a timber merchant near London, when on a viſit to his friends

friends in this country. He had ſeen machines uſed by the peaſantry there for thraſhing their grain, which he deſcribed as ſomething betwixt that made by Mr Cotterel, and the one claimed by Mr Meikle as his invention. And, when I firſt attempted to make a mill for my own uſe, I endeavoured to follow his deſcription as nearly as poſſible. Theſe Swediſh machines were driven by water, and fed by two rollers; and the grain was knocked out by an open ſcutch inſtead of a drum; they were of various ſizes, though more generally ſmall; but the gentleman's removal to another country, where he died, prevented my receiving the particulars, as to the ſize and velocity.

With regard to Arator's attack on me for not mentioning thoſe machines he takes notice of, I have only to obſerve, that I never heard of them; but if Arator will peruſe the various Engliſh publications in agriculture, he will find that the ſize of your Magazine is quite inadequate to contain the numberleſs contradictory accounts of the invention and effect of the various thraſhing machines that have been, and ſtill are in uſe in the different counties in England. The object of publiſhing my obſervations on thraſhing machines has been accompliſhed; and nothing that Arator can ſay will either ſatisfy me or the public, that ſtraw, which we ſee is thraſhed clean by a ſmall machine, is not properly done, becauſe it has not paſſed through Mr Meikle's mill; and that a mill, which, with the aſſiſtance of a man, a woman, and a boy, will ſeparate three bolls, Aberdeenſhire meaſure, of grain from the ſtraw in an hour, is an uſeleſs machine, and that the people are only working to a loſs;—if a horſe machine, an additional boy is required. Many of theſe firſt are in uſe; and any perſon can in two days learn to feed them. In this country, a farm which raiſes 300 bolls, cannot be called a ſmall one.

In Arator's ſecond letter in your Supplement, though he quotes ſome expreſſions in mine, yet he has taken the trouble of inventing a machine for me, as I am perfectly unacquainted with the one he finds ſo much fault with there. My mill was deſcribed to take up a ſpace in the barn of about four feet by four, or four by five; and it, and thoſe in general uſe in this country, merely ſeparate the corn from the ſtraw.

The public and I had certainly reaſon to expect a complete hiſtory of thraſhing machines; but Arator's two letters contain little elſe than an eulogium on his friend Mr Meikle's mill, and an attempt to perſuade the public, that mine, or any others, are uſeleſs ones. And with regard to his calculations on the power and velocity of water wheels, was he the practical mecha-

nic he pretends to be, he would not require me to inform him, that a mill built by theory will fall very short of expectation when put into practice. I shall only add, that Mr William Tunstall of Midhall in Yorkshire, has erected a mill, which, with one horse, one man, and three children, thrashes 50 bushels of wheat in six hours. A trial was lately made at Earl Shaftesbury's, in Dorsetshire, betwixt this and several other thrashing mills, when its superiority was completely ascertained. By this Arator's calculation of a boll in the hour for each horse is completely refuted. The late Mr Palmer of Maxstock, Warwickshire, also invented a mill, which was much approved of there. I am, Sir,

A. G.

January 28. 1804.

OBSERVATIONS UPON THE ABOVE BY THE CONDUCTOR.

For various reasons the above letter is printed verbatim; therefore we judge it necessary to correct a misrepresentation therein contained. We allude to what is stated respecting the dispute betwixt Mr Meikle and Mr Rastrick, which, we expressly maintain, never came before a jury, consequently the court could not find '*that the thrashing mill was not entirely the invention of Mr Meikle.*' Our correspondent stated this circumstance in his first letter; but, satisfied that he was in an error, we ventured to expunge the passage. However, as the story is repeated, we give it in his own words, though it is no more than distributive justice to accompany the poison with a suitable antidote.

Mr Meikle, in the year 1799, brought an action against Mr Rastrick in the Court of King's Bench; and had the trial proceeded, sufficient evidence would have been given to convict defendant of an infringement upon plaintiff's patent right. In the evening before the day of trial, a meeting was held, by several of Mr Meikle's friends, with the Counsel employed (the Honourable Thomas Erskine and Mr Wood), when, after hearing the nature and extent of the evidence, Mr Erskine said, 'Gentlemen, your proof is very good, and I entertain no doubt of getting a favourable verdict; but can you substantiate that defendant took money for the machines which he erected?' Upon being told that the agent or solicitor in the prosecution had not called for such evidence, Mr Erskine replied, 'Postpone the trial till next sittings. Be then prepared to show that defendant received value for the machines erected, without which there can be no infringement; for, was he to set up in defence, that the work was executed out of love and favour, and you could

could not diſprove it, a nonſuit would be the neceſſary conſequence.' Influenced by Mr Erſkine's advice, the trial was put off, and, as already ſtated by Arator, when Mr Meikle's friends ſeriouſly reflected upon the ſhortneſs of the patent-right (three years of it only then remained), and the trouble required to enforce it, they unanimouſly agreed to relinquiſh the proſecution. For the correctneſs of this ſtatement, we can appeal to the Counſel and Agents employed, and alſo to ſeveral other gentlemen who were preſent at the meeting when the nature and extent of the evidence was diſcuſſed.

Entertaining an idea that ARATOR will not neglect to do the needful, we paſs over the other parts of A. G.'s letter. The ſubject of thraſhing machines is of much importance, and the public muſt be benefited by ſuch inveſtigations.

N.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Account of the Diſcovery and Propagation of Perennial Rye-Graſs in the Upper Ward of Clydeſdale.

SIR,

CONSIDERING your Magazine as an uſeful repoſitory for recording the hiſtory of agricultural inventions and diſcoveries, I ſend you the following account of the diſcovery and propagation of *ſtanding* or *perennial rye-graſs* in the Upper Ward of Clydeſdale and county of Tweeddale.

I ought previouſly to obſerve, that the practice of improved huſbandry by turnip fallow and artificial graſſes, is (as to adoption into general practice) of not above twenty years ſtanding in theſe bounds. I ought to obſerve alſo, that for a conſiderable period after its general adoption, and even ſtill (as to the more general practice) it is confined to the old *croft-land*, or land contiguous to the farm onſtead, which, from time immemorial, in purſuance of the old ſyſtem, was in uſe to receive all the dung from the cattle houſed through winter, under the three-ſhift rotation of *beer*, *oats*, *peas*; a four-ſhift rotation of *turnip fallow*, *beer with graſs ſeeds*, *hay*, *oats*, being ſubſtituted in place of that of three; and the *outfield* continuing ſtill to be treated as before, in being ploughed up from lea, after dunging by cattle folded upon it in ſummer, and then ſubjected to oat crops (with ſometimes the intervention of a penultimate crop of peas) till exhauſted, and then left to gather graſs ſward as it might.

In this ſtate of improved huſbandry, confined ſolely to the croft land ſubjected to continued tillage, and where improved paſture conſtituted a part of the rotation, it is evident, that a *perennial*, or *ſtanding rye-graſs*, was a matter of no moment to the farmer.

From voluntary imitation of Mr M'Dougal in Linton's practice, in Tweeddale; and, in Clydeſdale Upper Ward, from the compulſatory regulations introduced into the leaſes upon the Carnwath eſtate by Mr Low (who, by the way, enjoys the equal confidence of landholder and tenant in that diſtrict, as much as he does through the Lothians and Berwickſhire), the improved huſbandry was extended to the outfields; and that, either by merely croping the outfields with a little more mercy, and laying them down again for paſture in better heart, while the crofts continued in conſtant rotation tillage without intervention of paſture, as already ſtated; or (as was in ſuitable farms enforced by Mr Low's regulations) by introducing a rotation ſyſtem, including intervals of paſture over the whole farm in common with the crofts; ſo that the whole ſhould be ſubjected to alternate huſbandry of tillage and of paſture.

This change of ſyſtem, including everywhere improved paſture, raiſed a demand for perennial rye-graſs—rye-graſs being found the earlieſt ſpring food. Unfortunately, however, (from having been in no requeſt in the firſt ſtage of improved huſbandry, where nothing had been required from it but a ſingle hay crop), no attention had been paid to it; and the *annual rye-graſs* (much more proper for a hay crop, as being a plant of more luxuriant growth) had entirely uſurped its place; and a *perennial rye-graſs* came to be a *deſideratum* in the extenſion of the improved ſyſtem.

Knowing that the firſt dependence for perennial rye-grass, in Tweeddale, was upon Carnwath, I took the opportunity, when in that quarter a few days ſince, to make inquiry as to the mode by which that diſtrict had got poſſeſſion of it; and the following is the reſult of my inquiry, upon the authenticity of which I can fully depend, from the intelligence and integrity of my informants.

About fifteen years ago, a Clydeſdale man, a Mr White, ſettled as a merchant in the village of Carnwath, after having ſpent moſt of his lifetime in the agricultural line in various counties of England: he is ſpoken of as having ſhown himſelf poſſeſſed of great intelligence in farming. Thirteen years ago, upon a viſit to Mr John French farmer of Lampits, near the village of Carnwath, Mr White diſcovered, and pointed out to him, a ſmall patch of perennial rye-graſs in a neglected ſpot of his garden. It was recollected that this ſaid garden had been laid out

in

in grafs eighteen years previous to this difcovery; fo that this grafs muft have been of the true perennial kind, by having continued fo long. It was carefully preferved; and, from an original handful, came at laft to be raifed in quantity to fupply the demand of the market; and is now in fuch plenty as to have been fold this fpring at 12s. per boll. Mr French immediately fowed out broad walks in his garden with it, from whence he is fure of obtaining feed which has manifefted its perenniality; in which cafe his walks (very prepofterouſly indeed *as walks*, though moft properly as to more important purpofes) are moft religiouſly kept facred from the impreffion of human foot.

When with Mr French, upon occafion of this inquiry, he fhowed me fome yellow garden turnip, which he had planted for bearing feed, of *equal fize with common field turnip*, and which he had found in his field of common turnip. The fame mixture had been found laft feafon in fome fields of turnip in Tweeddale.

I found experiments had been made, at Carnwath, of the Swineridge improvement of deep mofs; but the improvement was confidered as altogether difproportionate to the expence. It was faid to have been found fo in the neighbourhood of Paifley, where lately it was profecuted with vigour.

At Carnwath it is afcertained to be more profitable to apply fuch mofs to the improvement of dry lands, either by burning it into afhes, or forming it into Meadowbank middings. Mr French, this feafon, has inftituted a fair comparative trial, upon very poor mooriſh land, well fallowed, and dreffed with Meadowbank and other manures—the field fown with oats, and graffes for paſture. The farmers there are fowing oats where beer uſed to be fown. I am, &c.

A Member of Eddleſtone Farmer's Club.

Tweeddale, 16*th April* 1804.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Comparative Trial of different Breeds of Sheep.

SIR,

I HAND you the refult of a comparative trial made at Edgerſton in Roxburghſhire, of four different kinds of wedder hogs, viz. the Leiceſter, South-Down, Cheviot, Forreſter, or Black-raced breeds. Three of each kind were procured, very nearly of the fame age, and in the fame condition; which were weighed on the 10th of November 1802, were kept together on turnip from that day till the 16th of April following, and from that time upon good paſture till the 10th of November 1803, when they were again weighed. The refult as under.

WHILE

WHILE ALIVE.

Kinds.	*Weight* 1802	*Total Weight*	*Weight* 1803.	*Total Weight*	*Increase*	*Total Increase.*	*Value of Fleeces*	*Prime Cost.*	*Weight of Fleeces*	*Total Weight of Fleeces.*
Leiceſter.	lib.	lib.	lib.	lib.	lib.	lib.	s. d.	L. s.	lib.	lib.
No. 1.	76		134		58				$5\frac{3}{4}$	
2.	75		$131\frac{1}{2}$		$56\frac{1}{2}$				4	
3.	68	219	$135\frac{1}{2}$	401	$67\frac{1}{2}$	182	5 6	3 18	$4\frac{3}{4}$	$14\frac{1}{2}$
S. Down.										
No. 1.	77		138		61				$2\frac{3}{4}$	
2.	69		136		67				$2\frac{1}{2}$	
3.	71	217	$124\frac{1}{2}$	$398\frac{1}{2}$	$53\frac{1}{2}$	$181\frac{1}{2}$	5 $2\frac{1}{2}$	3 0	$3\frac{1}{2}$	$8\frac{1}{4}$
Cheviot.										
No. 1.	64		$128\frac{1}{2}$		$64\frac{1}{2}$				5	
2.	59		101		42				$3\frac{1}{4}$	
3.	59	182	117	$346\frac{1}{2}$	58	$164\frac{1}{2}$	3 $9\frac{1}{2}$	2 5	$3\frac{1}{2}$	$11\frac{1}{4}$
Forreſter.										
No. 1.	70		135		65				4	
2.	70		$125\frac{1}{2}$		55				$5\frac{1}{4}$	
3.	59	199	$115\frac{1}{2}$	376	$56\frac{1}{2}$	177	2 0	1 19	4	$13\frac{1}{4}$

N. B.—The above weight is Engliſh pound.

On the 15th November 1803, a ſheep of the beſt condition of each ſort was killed, at Jedburgh fair, viz. No. 1. Leiceſter, No. 2. South Down, No. 3. Cheviot, No. 1. Forreſter. Reſult as under.

LEICESTER.

	Weight.		*Value.*	
	lib.	oz.	L. s.	d.
Fleece, as above - - - - - -			0 5	6
His carcaſe, at 6d. per lib. - - - - -	74	0	1 17	0
His offals as under.				
Head and feet - -	6	5	0 8	
Skin - - -	11	1	3 0	
Pluck - - -	4	12	0 $2\frac{1}{2}$	
Blood - - -	5	0	0 0	
Entrails - - -	18	6	1 $4\frac{1}{2}$	
Tallow - - -	12	5	7 2	
Total offal - -	57	13	0 12	5
	131	13	2 14	11
Prime coſt, as above - - - -			1 6	0
Gain of one year's feeding - - -			1 8	11
Weight of animal life - - - -	2	3		

SOUTH

SOUTH DOWN.

	Weight.		Value.			
	lib.	oz.	L.	s.	d.	
His fleece, as in Table			0	5	2½	
His carcaſe, at 6d. per lib.	74	3	1	17	1	
His offals, viz.	lib.	oz.	s.	d.		
Head and feet	7	4	0	8		
Skin	9	14	3	6		
Pluck	5	3	0	2½		
Blood	4	14	0	0		
Entrails	16	8	1	6		
Tallow	13	15	8	1½		
Total offal	57	10	0	14	0	
	131	13	2	16	3½	
Prime coſt, as above			1	0	0	
Gain of one year's feeding			1	16	3½	
Weight of animal life	2	3				

CHEVIOT.

	Weight.		Value.			
	lib.	oz	L.	s.	d.	
Fleece, as in Table			0	3	9½	
His carcaſe, at 6d. per lib.	64	11	1	12	4	
His offals, viz.	lib.	oz.	s.	d.		
Head and feet	6	3	0	6		
Skin	10	10	3	6		
Pluck	4	9	0	2½		
Blood	4	6	0	0		
Entrails	17	14	1	0		
Tallow	7	3	4	2¼		
Total offal	50	13	0	9	4¾	
	115	8	2	5	6¼	
Prime coſt, as above			0	15	0	
Gain of one year's feeding			1	10	6¼	
Weight of animal life	1	8				

FOR-

FORRESTER.

	Weight.		Value.		
	lib.	oz.	L.	s.	d.
Fleece, as in Table			0	2	0
His carcase, at 6d. per lib.	71	3	1	15	7

His offals, viz.	Weight. lib.	oz.	Value. s.	d.
Head and feet	8	8	0	8
Skin	13	0	2	0
Pluck	5	6	0	2¼
Blood	4	15	0	0
Entrails	17	6	1	3
Tallow	12	1	7	0¼

Total offal	61	4	0	11	1¾
	132	7	2	8	8¼
Prime cost, as above			0	13	0
Gain of one year's feeding			1	15	8¼
Weight of animal life	2	9			

RECAPITULATION.

Increase of Weight.

Leicester breed	Lib. 182
South Down do.	181¼
Cheviot do.	164¼
Forrester do.	177

Gain from One Year's Feeding per Head.

Leicester Breed	L. 1 18 11
South Down do.	1 16 3¼
Cheviot do.	1 10 6¼
Forrester or Black-faced do.	1 15 8¼

If the quantity of food consumed by each kind during the time of trial, could have been ascertained, the result would have been decisive; but, even without that *desideratum*, I apprehend the result is altogether in favour of the Black-faced sheep.

I am yours, &c. F.

On

On the Agriculture of the Netherlands. By the Abbé MANN. *Extracted from 5th Vol. of* HUNTER'S *Georgical Eſſays.*

THE characteriſtic features of the Belgic peaſants are, *induſtry*, great *œconomy*, and a ſtrong *attachment* to the methods and cuſtoms of their predeceſſors.

Few people are more attached to their cuſtoms and practices than the Belgic peaſants. They ſeldom change their methods of agriculture, being perſuaded that their forefathers were as wiſe and knowing as themſelves, and that what they did, is the beſt themſelves can do. Whatever may be judged of their manner of living, and of the form of their dwellings (in which, however, they are as contented and happy as the moſt elegant Engliſh farmer), it will eaſily be acknowledged by thoſe thoroughly acquainted with the Flemiſh agriculture, that their practices are far from being either bad or irrational: on the contrary, it ſeems that long experience has ſo well ſucceeded in adapting theſe to the nature of the ſoil, that it would be hard to do any thing better. During the many years I was at the head of an eſtabliſhment which had many farms in property, and deſirous to have them cultivated to the beſt advantage, I tried what experiments I could for this purpoſe. The inteliigent farmers whom I often conſulted on theſe heads, gave me ſatisfactory reaſons, why the methods they followed were preferable to what I propoſed doing; and alſo why this would not ſucceed, as it proved in effect. The general reſult which I have been able to form, from what I know of the Flemiſh agriculture, is, that they draw from their farms the beſt crops, and the moſt food for great and ſmall cattle, fowl, &c. which the ſoil is capable of producing. The quantity thereof is certainly great, when compared to any extent of land in Germany, France, Spain, England, or any other country I am acquainted with. The compariſon, if made with due knowledge and impartiality, will certainly turn in favour of Flemiſh agriculture, whatever may be ſaid in preference of the neatneſs and elegance of the methods uſed elſewhere, and of the uſefulneſs of the new-invented machines employed therein.

What I have already ſaid, is as much as this Eſſay will admit of, on the general nature of Belgic agriculture. I ſhall now add a few words on the principles which the legiſlature follows with reſpect to it.

Theſe are chiefly confined to the following heads: 1*ſt*, Permiſſion for exportation of corn in times of abundance, and reſtrictions in times of ſcarcity: 2*dly*, Ordinances for bringing corn to be ſold at the markets, and for preventing it to be bought on the field, or at the farmer's: 3*dly*, Ordinances, in ſome provinces,

vinces, for reſtraining the extent of farms, and preſcribing a diviſion of thoſe of too great extent; alſo forbidding the deſtruction of farm houſes without rebuilding them.

The ordinances for bringing corn to be ſold at market, are generally eluded: the corn is bought at the farmer's; he brings it to market, expoſes it, and his firſt anſwer is, that it is ſold. This is often the cauſe of murmurs among the people; but I know of no remedy found for it, except the prohibition of all exportation, which takes place as ſoon as a real ſcarcity is felt; and this in its turn excites the murmurs of the farmers, who have ſeldom any other view than their private intereſt, and who, always having corn enough for their own uſe, never ſee a ſcarcity in the country.

As to the methods of agriculture, or the nature of crops, the government of the Low Countries takes no cognizance of them, but leaves every one to do what he thinks beſt; and certainly private intereſt and the love of gain are the beſt ſtimulants on this head, and ſeldom fail to excite each one to cultivate his ground in the manner, and with the productions, which he finds moſt profitable. Experience thereon is his only rule and guide.

The moſt univerſal land-meaſure in the Low Countries is the *bunder* or bonier. In Brabant and Hainault it contains 400 ſquare perches or roods of 20 feet long; ſo that the ſquare rood contains 400 ſquare feet, and the bunder 160,000. The rood varies in different parts, as does alſo the foot, which in general is leſs than the Engliſh one. On an average the bunder may be reckoned three Engliſh acres. In Flanders, land is uſually meaſured by what is called a *ghemet*, a meaſure containing three hundred ſquare roods; the rood being in ſome places twelve, in others fifteen, Flemiſh feet long: but, in ſome parts of this province, a bunder or bonier is in uſe, containing 400 ſquare roods, as in Brabant and Hainault; but the rood varies in different cantons, from ten to twenty feet in length. The bonier contains four journals of land.

In the reſt of this eſſay, I ſhall treat briefly of the methods of agriculture in different parts of Flanders, Brabant, and Hainault, diſtinguiſhing them according to the different nature of the ſoil, and confining myſelf to ſuch practices as are generally eſtabliſhed in each. As the difference of climate is inſenſible within theſe limits, I ſhall prefer the order which reſults from the ſoil, to that of locality, as the practices of huſbandry, in an extent of flat country not exceeding one hundred miles any way, are determined in a great meaſure by the ſoil alone.

The different ſoils I ſhall ſpeak of are the following:

1. The ſandy heath of the Campine of Brabant.
2. The parts of Brabant contiguous to the Campine.

3.

3. The ſtrong clayey ſoil of Walloon-Brabant, and the northern parts of Hainault.

4. The ſoil of the middle region of Brabant, being a mixture of ſand and loam.

5. The light ſandy ſoil about Bruges.

6. The rich loam of the diſtricts of Ghent, Courtray, and Maritime Flanders.

7. The artificial ſoil of the Pays de Waes.

The Campine of Brabant.

It is well known that the Campine of Brabant, which is the northern part of that province, conſiſted originally of ſand covered with heath, interſperſed with lakes and extenſive marſhes, and here and there with woods of fir. Tradition ſuppoſes it to have been once a part of the ſea. To this day, where cultivation has not extended, the ſoil of itſelf produces nothing but heath and fir. The ſand is of the moſt barren and harſh kind, nor can it be rendered fertile, but by continued manuring. As the property of this ground may be acquired for a trifle, many have been the attempts of private perſons to bring tracts of it into cultivation; every means have been tried for that purpoſe, and government has given every poſſible encouragement to it. But I have not heard of any one, however conſiderable might be his fortune, that has ſucceeded in it, and many have been ruined by the project. What is cultivated in the Campine, is owing to the religious houſes eſtabliſhed in it, eſpecially to the two great abbeys of Tongerloo and Everbode. Their uninterrupted duration for five or ſix hundred years paſt, and their indefatigable induſtry, have conquered theſe barren harſh ſands, and rendered many parts of them highly productive. The method they follow is ſimple and uniform; they never undertake to cultivate more of this barren ſoil at a time than they have ſufficient manure for; ſeldom more than five or ſix bunders in a year; and when it is brought by labour and manuring into a ſtate capable of producing ſufficient for a family to live on, it is let out to farmers on eaſy terms, after having built them comfortable habitations. By theſe means, many extenſive tracts of the Campine are well cultivated, and covered with villages, well built houſes, and churches. The abbey of Tongerloo alone furniſhes about ſeventy of its members as curates to theſe pariſhes, all of whom owe their exiſtence to that original ſtock. I may add here, and that from the undoubted teſtimony of the hiſtorians of the Low Countries, that the cultivation of the greateſt part of theſe rich provinces, took its riſe from the ſelfſame means, eight hundred or a thouſand years back, when they were in a manner one continued foreſt.

A Campine farm of twenty bunders is ſtocked with two or three horſes, ſeven or eight cows, ſome oxen, and is cultivated with coleſeed, clover, rye, oats, and little or no wheat. It is hardly neceſſary to add, that potatoes, turnips, and carrots are cultivated not only in the Campine, but throughout all the Low Countries. But the culture of ſpergule *(alſine ſpergula major)* is more peculiar to the north of Brabant, though not confined to that tract alone. It ſerves the cows for autumn food, and the butter of this ſeaſon is called ſpergule butter, of which the Campine furniſhes a great quantity, eſpecially to Bruſſels, where it is employed for the uſe of the kitchen, as being both cheaper and more profitable than any other for that purpoſe. This plant is ſown where corn has been reaped, after the ground has been lightly ploughed. Cows are tethered on it in October, and a ſpace allowed to each one proportionable to the quantity of food which is proper for her. This paſture laſts till the froſts come on.

As ſpergule gives but little ſtraw, and conſequently little manure, the farmers ſupply the want thereof in the following manner—The peat or ſods which are cut from the heath, are placed in the ſtables and cow-ſtalls as litter for the cattle. The ground under them is dug to a certain depth, ſo as to admit a conſiderable quantity of theſe peat ſods, and freſh ones are added as the feet of the cattle tread them down into leſs compaſs. Theſe compoſe ſo many beds of manure, thoroughly impregnated with the urine and dung of the cattle. This litter is renewed at proper times, and that which is removed from the ſtables and cow-ſtalls is laid up in heaps, till it be carried into the fields where it is to be ſpread. This mixture produces a compoſt of excellent quality for fertilizing ground where corn is to be ſown. By theſe means a far greater quantity of manure is produced from the peat, than could be had by burning it, as is done in ſome parts. In the Campine of Brabant, the main object which the farmers have in view, is to obtain a great quantity of manure, without which all attempts to cultivate that barren ſoil are in vain.

Beſides butter, the Campine furniſhes the reſt of Brabant, and Bruſſels particularly, with great quantities of fat fowl: the markets are conſtantly ſupplied with them, and they are preferred to any other of the ſame kind. They are not leſs ſought for and eſteemed in South Holland.

The Parts of Brabant contiguous to the Campine.

There is no great farms in theſe parts, and hardly any ſuch thing as tenants; each farmer is a proprietor; and as he cultivates his own ground, it is clear that he will do all he can to render

render it fertile, without impoverishing it: far different in this respect from the tenant, who only seeks his own temporary interest, by forcing the soil, during his lease, if he has no assurance of renewing it, indifferent how much he may impoverish the land for the future.

There are many meadows in these districts, which give regularly two crops of hay, one at midsummer, the other towards the end of August. It is not observed that frequent mowing impoverishes those meadows whose soil is deep and fat. If others of inferior soil appear spent, the custom is to sow them for three succeeding years with oats, and the last thereof mixing clover with the oats: by this means they become excellent meadows anew.

In proportion as the ground rises from the meadows, it diminishes in goodness, becoming at last a rough brown sand, mixed with pebbles; and under this is a stratum of compact clay, through which water filtrates with difficulty. Such ground as this gives small crops of rye, but it is excellent for black or Turkey wheat (*bled Sarrazin*).

The productions of this part of the country are, wheat, rye, barley, oats, and Turkey wheat; and as food for cattle, spergule, clover, turnips and potatoes. They cultivate also rape, coleseed, and flax, chiefly for their oils; and also tobacco. I shall add a few observations on some of these.

The good corn land of this canton never lies fallow; the only rest that is given it, is to let it lye a year in the clover that was sown on it with the corn the preceding year; and then it returns again to corn, which is produced in its former abundance. It has been observed likewise, that the best crops are produced when the corn is sown thin.

Turkey wheat, made into paste, and fried with fat bacon, is the ordinary food of the peasants of these parts, and also of the Campine. It serves them likewise for fatting their fowl; of which, as was said above of the Campine, they feed great quantities for the markets of the rest of Brabant and of Holland.

Great quantities of spergule are likewise cultivated in this district. It is sown immediately after the corn is reaped. This plant is excellent in the latter season for cows: it is wholesome, and increases the quantity and the goodness of their milk; and the butter made from it is fatter, and keeps better, than that made from grass in May and June. Spergule serves likewise for manure, in light soils, on account of its succulent and fat nature: being ploughed down while it is still green, it serves as a partial amendment for sowing wheat on the ground.

Clover is sown along with rye, barley, oats, wheat, and even with flax. Clover seed is a great branch of commerce in this

country. When they do not chooſe to let the clover grow up for ſeed, it is cut at leaſt three times in a year. After the laſt cut, the plant is ploughed under, and makes a good manure; and, with a little dung added to it, wheat or rye are profitably ſown on the ground.

Turnips and carrots are ſown indifferently with any ſort of corn; inſomuch that in autumn, after the corn is reaped, the fields appear covered with them; and it is obſerved, that thoſe which grow in this manner, are better than thoſe planted in gardens, and are an excellent and healthy food for both men and cattle.

Potatoes are here likewiſe of great uſe for both. Their culture ſerves to amend ground newly broken up, by dividing and lightening its too compact parts, and rendering it thereby proper for ſowing rye on, the following year.

Coleſeed (*colza*) and rape require a ſtrong ſoil, and rather dry. Flax exhauſts the ground, and is detrimental to the culture of corn on it. Tobacco produces a ſtill worſe effect of the ſame kind.

It has been found of great uſe in this part of the country, to divide the land into ſmall fields, encloſed with ditches and quick-ſet hedges, which ſhelter the vegetation from the dry winds and froſts of the ſpring; nor are they leſs uſeful in long droughts, for the ſame reaſon. The ditches are receptacles for the water which runs off in rainy ſeaſons, and contribute alſo to the growth of the hedges, which are cut for faggots every five or ſix years. Oak, beech, birch, poplar, hazel, &c. are planted for theſe hedges, the growth of which is kept down by frequent cutting.

Walloon Brabant, and Northern parts of Hainault.

The ſoil I ſhall ſpeak of under this head, is in general a cold compact clay, almoſt impenetrable to rain, and in droughts hard and full of cracks. In ploughing, the furrows are made from eight to twelve feet in diſtance. Lime and marl are found to be the beſt manures for this ground, which is manured one year in three. Long experience has ſhown, that the earth, after ploughing, muſt not be too much broken; for if it be, the rain forms it into an even compact maſs, which afterwards dries and hardens, ſo as to become like one of the barn floors of the country; whereas, when the earth is left in clods, theſe crumble away inſenſibly during winter and ſpring, and thereby cover gradually the roots and young ſtalks of the corn.

Culture of Wheat.—The ground whereon wheat is to be ſown, is completely dunged, and ploughed five times; the firſt time in November, the ſecond in March or April, the third at Midſummer, at which time the dung is ſpread on it, the fourth in Auguſt

Auguſt, the fifth and laſt in September. Four raziers, weighing 100 lib. each, are uſually ſown on a bunder, which gives in its turn fifty raziers, when the crop is good. When lime is uſed for manure, four waggon loads are uſually laid on a bunder.

Rye.—This is ſown on land that has been dunged and ſown with wheat the foregoing year. Two ploughings ſuffice. The ſowing is begun about the 20th of September, if the weather permits: and in the ſpring, clover is ſown on it. The crop is uſually ripe in July.

Meteil.—Wheat and rye ſown together are called Meteil. This mixture is ſown, like rye, on a ground that has borne wheat the preceding year, and which has been ploughed in the ſame manner. The ſowing and reaping time of meteil are a little later than thoſe of the rye.

Oats.—They are ſown preferably on land which has borne clover; and in this caſe one ploughing ſuffices.

Clover.—Clover is ſown along with wheat and rye; 20 lib. of ſeed are uſed for a bunder. An artificial meadow of clover, remains good for two years; but in the ſpring of the ſecond year, forty tubs (cuvelles) of aſhes, each weighing about 60 lib. are ſpread on a bunder: but this quantity varies according to the ſeaſon and the nature of the ground.

Potatoes and Carrots—Are great articles of cultivation in theſe parts, and uſed for both men and cattle; but the methods have nothing peculiar.

Turnips—Are ſown on a well dunged ground, about the middle of July; and before the end of September, if the ſeaſon be favourable, they are fit to be given to the cattle, who feed partly on them as long as they remain good.

Horſe-beans, Peas, Vetches.—All theſe are cultivated in theſe parts of the Low Countries, without any material difference in the manner from what is practiſed elſewhere.

Colzat or Coleſeed.—It is ſown about the middle of July, and the young plants are tranſplanted about the end of September. This is done with a narrow ſpade, ſunk into the ground, and moved with the hand forwards and backwards, which ſimple motion makes a ſufficient opening to receive the plant: a boy or girl follows the labourer with plants, and, putting one of them into each hole, treads againſt it to cloſe it up. If the plantation is done with the plough, the plants are placed at regular diſtances in the furrow, and are covered with the earth turned up by the ſucceeding furrow. Some time after the coleſeed is planted, the foot of the ſtalks are covered by means of a common ſpade, or hoe, with the earth near it, which furniſhes nouriſhment for the plants during winter, by the crumbling of theſe little clods

of earth over the roots. The coleſeed is reaped about Midſummer, or later, according as the ſeaſon is more or leſs advanced: it is left on the field for ten or twelve days after it is cut, and then thraſhed on a kind of ſail-cloth, ſpread on the ground for that purpoſe, and the ſeed carried in ſacks to the farm. When the crop is good, a bunder produces about forty raziers, of 80 lib. weight each. It is to be obſerved, that the ground whereon coleſeed is to be planted, muſt be dunged, and twice ploughed, the ſame year it is put in uſe.

Flax.—The land for ſowing flax, muſt be carefully cleaned from bad weeds, and well dunged. Some farmers, for the ſake of getting better crops of flax, ſow it on clover ground, which they dung towards the end of September, and plough afterwards. One hundred and eighty pounds of ſeed are ſown on a bunder as ſoon as ſpring comes on. When the flax is about four inches high it is carefully weeded, without which precaution the weeds would ſtifle the plants; and this is repeated as often as the weeds get head anew. When the crop is good, a bunder yields about 400 lib. weight of flax. The flax of this part of the country, is much inferior in quality to that produced about Courtray and Menin.

In theſe parts of the Low Countries, the farms are uſually much greater than in Flanders, and in the middle region of Brabant, where the land is richer. In Hainault, all farms of above ſeventy bunders have been divided; but this has not extended to Walloon Brabant, where there are ſtill many great farms.

A farm of ſeventy bunders * is uſually diſtributed as follows: ten bunders of meadow, ten of wheat, twelve of rye, three of winter-barley, one of ſpring-barley, eight of oats, four of horſe-beans, peas, and vetches, and eight of clover; which together make fifty-ſix bunders in cultivation, the other fourteen lying fallow, in all ſeventy bunders. For cultivating ſuch a farm, eight horſes are neceſſary; and it is ſtocked with ſixteen cows, twelve oxen, and a flock of two hundred ſheep; beſides hogs and fowls in proportion.

The Middle Region of Brabant.

The land is here a mixture of ſand and loam, which make an excellent light ſoil, but not ſo rich as that of Flanders, though preferable perhaps for corn. The uſual productions of this part of the country are wheat, rye, oats, barley, beans, peas, vetches, clover, turnips, carrots, and potatoes. No ground here lies fallow; the farms are ſeldom extenſive: forty bunders may be taken

* About 210 Engliſh acres.

taken for an average. The distribution of a farm of this size is usually into about six bunders of meadow, and thirty-four of arable land.

These last are manured almost yearly, with from twelve to sixteen waggon loads of manure to each bunder, those in clover excepted. On these it is usual to spread, in March, turf-ashes brought in boats from Holland. From eighty to one hundred tubs of about sixty pounds weight each are employed for a bunder, one third of which is kept to be spread after the first cut. Many of the Flemish farmers make great use of these ashes, which being highly impregnated with salts, enrich the land so as to render it capable of producing excellent crops of wheat, without any other manure, except turning under the clover it was sown with the preceding year.

In most farm-yards, a deep ditch is dug near the cow-house, into which the urine of the cattle runs, and a sufficient quantity is gathered, for spreading over two or three bunders, which proves an excellent manure.

The arable part of such a farm as I am speaking of, is distributed as follows: five bunders of wheat, five of rye, two of meteil, two of barley, four of oats, two of beans, peas, and vetches, five of clover, four of turnips, carrots, and potatoes, and five of colesseed; in all thirty-four bunders, the other six being meadow.

The following rotation is used in the culture of these parts. The ground being well manured, the first year colesseed is planted; the second year it is sown with wheat; and the third with rye, without dunging. From two to three raziers of wheat, of 80 lib. each, are usually sown on a bunder; and when the crop is good, it yields from thirty to forty raziers of the same weight.

Some farmers spread turf-ashes on the ground where they have sown turnips and carrots, as well as on that sown with clover, &c. and then pass the harrow over it.

In a favourable year, a journal (a quarter of a bunder) of land well manured, will produce from fifty to sixty sacks of potatoes.

Those that feed sheep in the districts where no land lies fallow, feed them, as well as their other cattle, with corn, beans, peas, vetches, turnips, and other roots.

Agriculture of Flanders; and first in the environs of Bruges.

The quality of the soil varies greatly in different parts of the district of Bruges, although the main constituent of it be every where a light sand. In many parts, continual manuring and cultivation have rendered it extremely rich; in some spots, for want of these, it is less so; but a more extensive population would soon bring them into the same state as the rest.

There are many large farms in this part of the country, belonging in general to the rich abbeys; thoſe of lay proprietors are for the moſt part leſs; and thoſe of which the farmers themſelves are proprietors, are ſtill ſmaller. The culture in theſe cantons is regulated as follows:

A ghemet, or meaſure of land, is manured the firſt year with dung, or, near Bruges, with a boat load of ſtreet-dirt from that city; it is then ſown with flax; the ſecond year wheat is ſown on it; the third year rye; the fourth year it is again ſlightly manured, and town with oats or Turkey wheat, and ſometimes with clover, turnips, carrots, parſnips, or potatoes.

Clover is ſown along with oats, and only laſts a year: it is afterwards ploughed, manured, and ſown with wheat and flax.

Broom is ſometimes ſown as an amendment for bad land, and pulled up at the end of the ſecond year, during winter. The ground is then dunged, ploughed, and cultivated with later crops, ſown in the ſpring.

Turnips, carrots, parſnips, and potatoes, ſupply in theſe parts the want of meadows, and great care is taken to preſerve them during winter for food for their cattle. Turnips, carrots, and parſnips are laid in the earth, in round heaps, of eight or ten feet in diameter at the bottom, and five or ſix feet high; when the firſt layer is placed, it is covered with long ſtraw; and ſo on alternately to the top. Theſe heaps are opened in the winter or ſpring, according as the farmer has need of them for feeding his horſes and cows; they are given likewiſe to early lambs, when young graſs is wanting.

Potatoes are kept in deep holes dug in ſandy ground, where they are ſeldom hurt by ordinary froſts, and keep good till far on in the ſpring.

In this tract of country, there are many little woods of oak, elm, beech, alder, and here and there fir of the maritime kind. Great quantities of willows are planted, and ſome are let grow up into trees, out of which are made windlaſſes for the boats and barges of the country: theſe ſell dearer than oak.

Lands on the Rivers Lys and Scheldt, from Menin and Courtray to Ghent and Dendermonde, and alſo of Maritime Flanders.

The ſoil on the flat banks of the Lys and the Scheldt is reckoned among the beſt in Flanders: it is in general a rich, ſandy, moiſt loam, become almoſt black with a long and uninterrupted cultivation. Hardly any great farms are found here; thoſe of from ſixty to eighty ghemets are counted the greateſt, and they are generally leſs, as the land is richer.

In

In the largeſt of theſe farms, there are ſeldom more than three or four horſes, and ten or twelve cows. The farmer employs from twenty to thirty waggon loads of dung for three ghemets of land, and only fifteen or ſixteen loads, if it be ſtreet-dirt from the great towns, or turf-aſhes brought by water from Holland.

Theſe lands produce grain of every ſort in great abundance, as alſo every kind of eſculent roots, which are given to the cattle in winter, along with their hay. The meadows along the rivers, and in other parts of this rich and moiſt ſoil, are ſuperiorly good, and the clover is the moſt luxuriant I ever ſaw. It is uſual to ſpread, in the ſpring, ſixty ſacks of turf-aſhes on three ghemets of clover ſown the preceding year, which proves an excellent manure to it.

A great branch of culture in theſe parts, and particularly in the diſtricts of Courtray and Menin, is that of flax, of which they produce an immenſe quantity, and of the fineſt kind. The expence of this culture is great, the labour beſtowed on it in weeding, is almoſt uninterrupted, and the damage it does to the ſoil in exhauſting its vegetable juices, is beyond meaſure; but in return, a good crop will almoſt buy the ground. To recover the ſoil after a crop of flax, clover and ſpergule are ſown on it, and turned down for manure.

The plough uſed for this fine light ſoil, has a little wheel and an immoveable ſower: one horſe ſerves to draw it, or two at moſt in the ſtrongeſt of this ground.

Lands uncultivated, and fields lying fallow, are here unknown. There are few woods in this part of the country; but all the fields are encloſed with hedges, and thick ſet with trees, inſomuch that the whole face of the country, ſeen from any little height, ſeems one continued wood.

The agriculture in Maritime Flanders is much the ſame with that now ſpoken of, as the ſoils of each bear a great reſemblance; only that near the ſea is more moiſt, the meadows are more extenſive, and little or no flax or ſpergule are there cultivated. If there be any material difference between theſe ſoils, it conſiſts in the greater quantity of marine ſubſtances, which enter into the compoſition of the ſoil of Maritime Flanders, than of that in the inner part of the country, and theſe add to it an additional degree of fertility.

The caſtlery of Furns, and the environs of Dixmude, abound more in excellent meadows than any other part of the Low Countries: the number of horned cattle fed there is immenſe, as is alſo the quantity of butter produced and ſold, chiefly at Dixmude market; and it is of the beſt quality, both for richneſs and keeping.

The Pays de Waes.

The land of Waes is the diſtrict lying on the north ſide of the Scheldt, between Ghent and Antwerp; it is a perfect flat, and is reckoned the richeſt part of Flanders. The original ſoil was pure ſand, and its preſent ſtate of fertility, is owing to the great number of its induſtrious inhabitants, who cultivate a few acres round their dwellings, of which, for the moſt part, they are proprietors. The natural meadows are rich, and the great number of cows which the inhabitants keep, furniſh manure in great abundance: But they are not content with this alone; great quantities of turf-aſhes are brought thither from Holland, as alſo a great part of the ſtreet-dirt and dung from Bruſſels, Antwerp, and Ghent, beſides what is had from the many rich and populous towns and villages, with which this diſtrict is covered.

The farms being ſo very ſmall, few horſes are kept in the land of Waes; the ground is chiefly worked with the ſpade and hoe, which the extreme lightneſs of the ſoil renders eaſy. If a plough be uſed, it is of the moſt ſimple kind, without wheels, and drawn by one horſe. All theſe contribute together to give a richneſs and fertility to the ſoil of this tract, which ſurpaſſes almoſt what can be imagined. No ſpot lies uncultivated.

The common method of culture is as follows: a bunder of land is manured, once in ſeven years, with from forty to fifty cart loads of dung, and town dirt. The firſt year it is ſown with hemp; the ſecond with flax; the third with wheat; the fourth and fifth with rye; the ſixth with oats; and the ſeventh with clover, Turkey wheat, turnips, or carrots. Fallow ground is unknown here.

Spergule is ſometimes ſown about mid Auguſt, on land that has borne wheat; and in October the cows are put into it. The ſpergule which they cultivate for ſeed is ſown in March, and reaped in June.

It is to be obſerved, that the riches of the land of Waes conſiſt chiefly in the culture of flax and hemp; the other crops being in general for their own uſe, and for home conſumption, which indeed is very conſiderable, on account of the great population of this diſtrict. The produce of their flax and hemp is ſo conſiderable, that in a good year they are reckoned to amount almoſt to the value of the ground.

The agriculture of the land of Waes, paſſes, indiſputably, for the moſt complete and perfect in all the Netherlands.

FOR

FOR THE FARMER'S MAGAZINE.

On Plantations; and, principally, on the advantage of making Woods and Planting Oak for undergrowth.

PLANTATIONS of trees may be divided into three kinds,

1*st*, GROVES, which contain timber trees only, with some pasture.

2*d*, COPPICES, containing undergrowths only; which are cut over periodically for their produce in bark or fuel, &c.

3*d*, WOODS, which contain a mixture of trees with undergrowth. The former are allowed to stand until they are full grown; but the latter is cut over at stated periods, according to the kind, the soil, and other circumstances.

Most PLANTATIONS, particularly in Scotland, though they generally go under the name of woods, are in reality of the grove kind. We find none of the trees kept decidedly under the rest, cut over, and allowed to spring up again, while a certain number, from 15 *to* 30 *feet distance*, are preserved until their timber is full grown; but, the trees being once planted, are allowed to grow up together, a few being thinned out where they are too much crowded, though by far too little attention is paid to thinning. Those thinned out are either cut over or grubbed out by the roots, as may be most convenient, without any attention to propriety; and, in consequence of this management, a few bushes of undergrowth are found in some places; and the rest of the ground, if not shaded too much by the crowded trees, is covered with pasture; but neither pasture nor undergrowths, from being intermixed, afford great profit to the proprietor.

There are other plantations, where undergrowth exists among timber trees in a more general way, but of kinds which are of little or no use, except for fuel; and this is far from being a profitable mode of disposing of wood, particularly in a coal country. On the other hand, there are woods in some places where both timber and undergrowth are cultivated; and it is from seeing the great profits obtained by the proprietors of these woods that I make the following observations on the advantage of raising oak UNDERGROWTH in Scotland.

The high price given for oak bark is pretty generally known; and the value of that produced by an acre of oaks, from twelve to twenty-five years old, is very considerable. Among the instances that occur to me at present, the Duke of Athol's, at Dunkeld, appears the most proper to mention. There, on land worth little or nothing in aration or pasture, are oak woods, principally natural, the undergrowth of which is sold every twenty-

twenty-five years at the rate of 30l. or 50l. per acre, the purchaſer being at all expences of cutting, carriage, &c. This is from 24s. to 40s. *per* acre *per annum*, independent of the value of the timber trees left, 250 of which may ſtand on each acre.

If the ſoil and expoſure of theſe woods be taken into conſideration, the growth of the trees will appear conſiderable; but I have obſerved that oaks do not grow half ſo faſt at Dunkeld as they do in the low and comparatively ſheltered lands of the more ſouthern diſtricts of Scotland; and am confident, if oak woods were planted (or at leaſt undergrowths of oaks in woods of any other deciduous tree) in theſe diſtricts, they would afford double the profit they do in the Highlands; would grow equal in ſize to Dunkeld undergrowth in twelve or thirteen years, and afford two cuttings in place of one. At Dunkeld, many places of the woods are too thin, and other parts covered with birches; but, in the Lowlands, they could be planted regularly thick, and, of courſe, would produce a more uniform crop, which would alſo make them more profitable.

However, leſt I ſhould be thought in any degree to make oak undergrowth appear more profitable than it really is, I ſhall only ſay, that, in moſt ſituations in Scotland, it will produce upwards of 2l.; and in many places of the Lowlands, upwards of 4l. *per* acre *per annum;* and I do not heſitate to add, that it would far exceed theſe ſums, in both caſes, were proper culture beſtowed upon the plants. This profit is independent of the produce of the timber trees; and if we ſuppoſe 250, or ſay only 200, are cut down every fifty years from each acre, at 3l. each, this is 12l. more *per* acre *per annum* for woods; and I am ſure none can ſay theſe calculations are in the leaſt degree overrated. *

Another thing which ought to be ſome inducement to plant oaks, is the eaſy charge with which it may be accompliſhed. It is, beyond a doubt, the ſpeedieſt, and in every reſpect the beſt method to raiſe oaks from the acorn, † by ſowing them at once where they are finally to remain. Now, 3 or 4 buſhels are abundantly ſufficient for an acre; which, at 5s. per buſhel, is, for

* It is proven beyond diſpute, that plantations properly made and managed will ultimately pay better than arable crops; but ſo few are to be ſeen properly managed, that men are unwilling to believe the fact upon the teſtimony of others. *See Marſhal, Agricola, Du Hamel, Young, &c. &c.*

† An acre of oaks afford a greater quantity of vegetable product than the ſame ſpace occupied with any other tree. This is owing to the top root of the oak penetrating many feet below the ſurface, and deriving the principal part of its nouriſhment in the bowels of the earth,

for the whole acre, much below the price of a ſingle thouſand tranſplanted trees of any kind; and tranſplanted oaks, which would coſt nearly double that price, would be at leaſt three years behind them in point of ſize four years afterwards, both kinds being planted at the ſame time.

Suppoſing the ground, then, on which an oak wood was to be planted, ſummer-fallowed and trench ploughed, at 2l. per acre, and ſown broadcaſt, before the laſt ploughing, with acorns, the total expence, making an ordinary allowance for the proportion of the expence of encloſing, would be only 3l. 5s. or 3l. 10s. per acre.

Or, if it were deſirable to have the timber trees of ſome other kinds rather than oak, then 250 aſh, beech, or elm, on each acre, which is more than 20 feet apart, could be planted immediately after the acorns were ploughed in, which would only amount to 10s. per acre more, or 3l. 15s., or 4l. per acre in total; and I appeal to every one, whether plantations, with the ſoil thus prepared and planted, would not far exceed in growth thoſe where the ſoil is uncultivated, but which are pitted and planted with tranſplanted oaks at the rate of 7l. or 10l. per acre. If the method which I contend for is the beſt, it ſurely deſerves the ſerious attention of gentlemen who plant ſeveral hundreds of acres by this laſt mode.

In belts, ſtripes, and all narrow plantations for ſhelter, undergrowth ſhould always be planted: Trees alone allow the wind to paſs unrefined through their naked ſtems, and hence afford comparatively little ſhelter; but trees and undergrowths mixed are like an immenſe hedge, equally thick from top to bottom, which checks the progreſs and retards the velocity of the wind for 30 or 50 feet above the ſurface.

In point of effect, too, ſtripes of trees and undergrowth are infinitely preferable to ſtripes of trees only. There is a meanneſs and littleneſs in ſeeing the ſtems of the latter; but the former, by concealing the real width, and preſenting a thick dark appearance, produces a maſſiveneſs and grandeur which gives a rich and noble appearance to a cultivated country. It hardly requires to be mentioned, that oak is the beſt kind of undergrowth for theſe ſtripes, and that it will produce better crops there than in cloſe extenſive woods. I rather wiſh to recommend to proprietors, who may

earth, where no other tree can reach. It is from the top root principally that this tree increaſes in ſize, although it will live many years with horizontal roots only. This is a moſt important fact, well deſerving the attention of planters. *See Miller's Dict. art. Quercus. See alſo Hunter's Georgics, vol. VI.* 442. *&c.*

may have ruinous or little worth hardwood plantations under twenty-five years old, whether in ſtripes or more extenſive plots, to reduce the timber trees to 20 or 30 feet diſtance, to dig or clean the intervals, and to plant them with acorns. In twelve or fifteen years afterwards, they would find the advantage.

It is not my intention, however, to recommend the formation of woods, excluſive of groves or coppices; on the contrary, there are thin ſoils with bad underſtrata, where fir groves are more profitable than any other kind of plantation: there are ſteeps, and rocky banks, where no tree can be ſo advantagouſly cultivated as the common oak; and rich moiſt places where no plantation will turn out ſo profitable as oſiers: but, generally ſpeaking, it may be ſafely aſſerted that woods are the kind of plantation that ought to be moſt generally formed; and that, though the kind of timber grown in theſe woods muſt vary according to the conſumpt of different places, yet that oak will be found the beſt and moſt profitable undergrowth.

But few, who plant, think of making one kind of plantation, or rearing one kind of tree more than another. A certain ſpace is to be planted, and it is juſt marked off, encloſed, and ſtuck full of trees, (no matter of what kinds), without any determinate object in view.

From this neglect alone, independent of all others, (ſuch as preparing the ſoil previous to planting, cultivating it afterwards, training and thinning, &c.), few plantations yield one third of the profit which they might do. But where the kind of plantation to be formed is previouſly fixed upon, then a proprietor, who intends to lay out money in this way, can ſay—Here I ſhall plant a wood—it will coſt juſt ſo much at firſt—in ſo many years the undergrowth will yield a certain ſum—it will do ſo always at the return of the ſame period—ſo many timber trees will ſtand on each acre, which, at ſuch a time, will yield ſo much—and all theſe returns is juſt ſo much *per cent.* for the money which I have laid out—and, after deducting every expence, my profits will ſtand thus, &c.

Here I make a coppice—ſuch a tree is the moſt profitable to plant—I can plant ſo many acres for ſo much, and they will yield ſo much per acre in ſuch a time, and the ſame periodically afterwards.

Here, again, I plant a grove—it coſts me ſo much—in a certain number of years I will commence thinning—in ſo many years more I ſhall have thinned out juſt ſo many trees, at ſo much each, and left ſo many remaining on each acre;—now I ſow graſs ſeeds among theſe trees, and next year it will afford ſo much per acre for paſture, which it will continue to do for ſo many years, until at laſt I cut down the full grown timber, when each tree will afford

ſo

ſo much—or my total expence and profit will ſtand thus, &c. But mix all theſe kinds of plantations, and the different trees ſuitable for each kind together, as is commonly done, and what can be ſaid about them? or to what advantage can they be turned? The proprietor muſt feel great difficulty in directing their general management, and great uncertainty as to what they ſhould produce; nor has he any kind of check upon either the manager, the buyer, or the ſeller of his timber. But, by the mode which I recommend, he has a certain object in view in every plantation, even in every hedge-row or ſingle tree; and all his operations tend to promote this object. In this way he operates, though not with an abſolute certainty of the profits and loſs, yet with ſuch clear ideas on theſe heads, that he can never be at a loſs how to proceed, nor even greatly diſappointed in his expectations. J. L. L. & J.

P. S.—In the laſt Number of your Magazine, a correſpondent requeſts information 'concerning the moſt expeditious way of taking up the roots of trees.' I only beg to ſtate, in caſe you ſhould not be favoured with a more complete anſwer, that the beſt machine that has been uſed hitherto for this purpoſe in England, where oak roots of immenſe ſize are extracted, is the *Eradicator*, a deſcription and drawing of which, and alſo of another machine of the ſame kind, called the *German Devil*, will be found in the laſt edition of Shenton's *Euclyus Sylva*.

I think, that if the cylinder in theſe machines, on which the rope is wound up, were made conical, ſay 1 foot diameter at one end, and 4 feet at the other, and the rope put twice round at the ſmall end, one man alone would with eaſe raiſe the largeſt ſtone, or tear up the largeſt root that the ſtrength of the machine could bear. But ſince I thought of this plan, I have not had time to try the experiment, and therefore ſhall ſay nothing further at preſent.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Account of Farmer Creſinus and his Enchantments.

SIR,

WHILE you beſtow ſuch laudable attention on the important ſcience of agriculture, and very properly conſider every fact and circumſtance connected with it as worthy of your notice, I am ſurpriſed that one claſs of cauſes, which were conſidered by moſt people formerly, and by many ſtill, to have a conſiderable influence on the ſucceſs of the huſbandman's operations, ſeems hitherto, as far as I can recollect, to have eſcaped you altogether. I hope, therefore, you will take in good part this attempt to ſupply the omiſſion.

What I propoſe in the following eſſay, is to ſhow the value and importance

importance of certain ſpells, charms and enchantments, and their efficacy in ſecuring the intereſts and ſucceſs of the farmer. I confeſs the current of the times ſeems rather to run counter to ſuch doctrines, men ſeeming now diſpoſed to refuſe theſe cauſes much of that merit which they were formerly allowed to poſſeſs. And I muſt acknowledge that my own inquiries, inſtituted with a view to obtain unequivocal proofs of their efficacy, and ſo to eſtabliſh, on ſure grounds, a ſyſtem in favour of which I was early prejudiced, have not, on the whole, been very ſatisfactorily anſwered. I cannot fairly ſay, for inſtance, that I have obſerved any remarkable difference (*cæteris paribus*) between horſes kept in a common ſtable, and thoſe kept in one that had the additional advantage of having an old horſe ſhoe nailed to the door *ſecundum artem*. I ſpeak, however, under correction. Again, it is uſually ſuppoſed that a couple of twigs of the mountain aſh, or rountree, as we call it, properly tied together with a ſcarlet thread, and placed carefully on the top of the wall, right over the door in the byre, is a good remedy both for the prevention and cure of any kind of itch or ſcab in cows; while, at the ſame time, it has this advantage, that the application does not injure the general health of the animals, or cauſe any great degree of *nauſea*. I hope and wiſh that all this may be ſo; but I cannot affirm it from any experience of my own.

Diſappointed in theſe and other inſtances, I was on the point of giving up belief in ſpells and inchantments altogether, and renouncing the whole ſyſtem as abſurd in theory, and uſeleſs in practice, when I was agreeably ſaved from incredulity, by meeting with a paſſage in an old author, one Mr Pliny, who writes on this, among other ſubjects. In this paſſage, which I am about to quote for the edification of the public, he makes mention of a particular charm or ſpell, or call it what you will, which is found to be poſſeſſed of extraordinary virtue in improving the quality and increaſing the quantity of grain or other produce on any given ſpot of ground. Now, this is preciſely what I had always wiſhed and hoped to diſcover myſelf, and it is a ſecret which, I preſume, many a farmer will be glad to learn.

I am well aware, that, in this enlightened age, I ſhall be laughed at by ſome, and abuſed by others, for giving any degree of credit to *ſuch ſtuff*, as they will call it, and for preſuming to obtrude it on the public. But let not a generous public be biaſſed againſt me or my diſcovery. I am going to whiſper ſomething into the ears of thoſe gentlemen who may laugh at me, which they are little dreaming of. THE CHARM HAS ACTUALLY BEEN TRIED BY ONE OR TWO RESPECTABLE FRIENDS OF MINE TO WHOM I GAVE THE HINT (I have not tried it as yet myſelf), AND IT HAS ANSWERED AMAZINGLY. Seeing is believing. I am

ready

ready to atteſt the fact, and ſhall leave my name with your publiſher for a reference. But as I do not chooſe to be troubled with impertinent inquiries, I make this proviſo, that every perſon, before receiving my name and deſignation from the Publiſhers, ſhall produce a certificate, ſigned by at leaſt three reſpectable farmers, bearing that he has made a fair trial of the charm I am now about to publiſh, and that it has failed in his hands.

One thing I beg leave to aſſure your readers of, that it is perfectly innocent. It may be uſed with the utmoſt ſafety, as, like the remedies mentioned above of the horſe ſhoe and roun-tree, if it does no good, it will do no harm. It is likewiſe cheap. Let me earneſtly requeſt them, then, to give it a fair trial, and, perhaps, many a one who can talk very wiſely about agriculture, who reads, yea who writes on agriculture, may come to bleſs the day on which he read this letter, and complied with my requeſt.

I ſhall now, without farther comment, leſt you ſhould think me tedious, give you the paſſage alluded to above, tranſlated from the original, as it is written in a foreign tongue, of which I have a ſmattering. It may be found in the ſixth chapter of his eighteenth book, and is as follows.

One Creſinus was obſerved to draw greater returns in grain and fruit from a very ſmall farm poſſeſſed by him, than his neighbours could do from much larger poſſeſſions. He was naturally ſuſpected of employing magic, by which he was enabled to make the corn deſert his neighbours' fields, and come over to his own. The neighbourhood, being alarmed, entered a complaint againſt him to a Juſtice of the Peace, who ordered him to appear before the quarter-ſeſſions; which court, in that country, was held in the market-place, and in the open air.

Farmer Creſinus, ſeeing that matters were like to go hard with him, as the preſumptions of his guilt were very ſtrong, reſolved, that inſtead of endeavouring to protract the buſineſs, by uſing the ſhifts and quirks of law, he would diſcover his whole ſecret at once, and throw himſelf on the mercy of the court. So, on the day appointed, he made his appearance with his only daughter, who was an accomplice (a ſtout, clever girl); he likewiſe brought all his trumpery into court, conſiſting of ploughs, harrows, ſpades, mattocks, &c.; all of the beſt materials and workmanſhip, and all his own workmanſhip too; for in theſe days every man was his own wright and ſmith. He even brought his working cattle (the court-room, being large, could eaſily hold them), all of them ſtrong and in good keeping. He then addreſſed his judges as follows: '*Veneficia mea, Quirites, hæc ſunt. Nec poſſum vobis oſtendere, aut in forum adducere lucubrationes meas, vigiliaſque ac ſudores.*' That is, 'Theſe are my ſpells, Gentlemen; there is my magic. But I cannot ſhow you, or bring

bring into court, the other charms I have employed; my toil and ſweat, my early riſing and late going to reſt.'

'This ſtory has a moral, and, no doubt,
You all have ſenſe enough to find it out.'

I am, Sir, your moſt obedient Servant, OBERON.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

A Propoſal for eſtabliſhing Schools, wherein Practical Agriculture might be Taught.

SIR,

I AM now reſiding with a friend in the neighbourhood of Edinburgh, and am moſt forcibly ſtruck with the careleſs, ſlovenly manner of his farm ſervants. This induces me to ſend you this letter, in hopes that ſome of your correſpondents will point out the beſt mode of removing this very general complaint among agriculturiſts.

Farm ſervants are in many caſes ignorant of the proper modes of performing the ſeveral operations of agriculture and the management of cattle; ſuch as herding, driving, cleaning, feeding, &c.; or ploughing, ſowing, harrowing, rolling, &c.; and their general deportment is often careleſs and diſguſting. Not poſſeſſing any ſenſe of ſhame, they think nothing of breaking or loſing implements, deſtroying food, or injuring cattle; and a hundred reproofs from the maſter ſerve no end but that of irritating his own mind, and confirming his reſolution of turning them off at next term time. Thus ſervants paſs from one maſter to another without gaining amendment. *

There are many cauſes that contribute to this evil; but the principal one is the little attention maſters pay to the inſtruction of their ſervants when young; or if they do in any degree, their haughty domineering manner ſerves only to create diſguſt between the parties, which can never end in advantage to either. But, in place of this, were maſters patiently to inſtruct them in a mild conciliating way, joined at the ſame time with firmneſs and determination, convincing them it was equally for their own advantage to do things properly, &c. ſervants might then become expert at performing every operation, and decent and tractable in their behaviour; the great benefit of which would be felt by all parties ever afterwards.

Servants

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* Something too might be ſaid reſpecting the behaviour and cleanlineſs of female farm ſervants; but this ſubject is ſo excellently treated in a late number of the Scots Magazine, that I cannot do better than refer every houſewife to theſe well written papers.

Servants (I think) have become much worſe ſince the ſize of farms have been increaſed; and, from the ſtyle and mode of life that farmers have now got into, few of them have ſuch a virtuous taſte as to engage in the reformation or inſtruction of their ſervants. It appears vain, therefore, to imagine that this evil will be remedied by every individual farmer inſtructing his own ſervants. What appears to me the only probable method, would be to eſtabliſh farming ſchools, where young people, before they commenced FARM SERVANTS in general, would be taught how to perform every operation of agriculture and rural œconomy, the duty of ſervants to maſters, &c.

What I call a ſchool, might juſt be a farm managed by a farmer ſuppoſed to have a ſuitable temper, diſpoſition, and abilities. Such ſchools ſhould be diſtributed here and there throughout the country, ſo as farmers of every deſcription may have proper ſervants; and that thoſe farmers at a diſtance may change, as it were, the kind of ſervants, if they chooſe, by ſending to a different ſchool (which would tend alſo to improve agriculture). A committee of ſubſcribers ſhould be appointed to eſtabliſh theſe ſchools, direct their general management, and inſpect them annually. When in the field, they might perform every operation in agriculture, and anſwer many queſtions reſpecting cattle and other ſubjects to the committee. Former pupils might alſo attend to compete for premiums, which would keep up a proper ſpirit of emulation over the whole country. *

To indemnify the farmer choſen as ſchoolmaſter for theſe ſchools, he ſhould be allowed one or more years ſervice, according to the age, ſtrength, &c. of the pupils; upon providing them with victuals during that time; or upon victuals and ſo much money for clothes, in the caſe of ſome ſervants who could not afford to find clothes for one year, but who might ſerve a longer time on that account.

Suppoſing theſe ſchools eſtabliſhed, the farmers of the ſurrounding country ſhould make all their ſervants paſs through them (which would make no difference in their ſcarcity any more than the preſent mode of changing ſervants does); and none ſhould hire a young man who had not previouſly attended theſe ſchools at leaſt one year, and had received a certificate of his character, abilities, and natural temper, from the ſchoolmaſter There are many other things that will occur reſpecting the formation

* Perhaps the beſt time for this inſpection of the committee would be two or three weeks before harveſt, when they might both mow hay and reap corn (though not ripe). At another time they might plough and ſow, and perform every other part of operative work.

tion and management of these schools, which would take up too much room to mention here. I shall only observe, that the scheme, in every light I can view it, would be a great benefit to those concerned; and tend to promote agriculture, and the general benefit of the country. But I shall be glad to hear the opinion of your correspondents before I say any thing farther. I am, Sir, yours,

K———l, 1804. ELRONA.

FOR THE FARMER'S MAGAZINE.

Observations on the Principles of Corn Laws.

1st. '*To secure a sufficient supply of grain for the people in ordinary seasons*'—Let there be a fair price, and a free market. The former will be secured by the alterations suggested in the late report of the committee of Parliament; the latter must be attained by the exercise of mild and firm authority in suppressing every act of violence tending to proscribe the culture of grain, and to destroy the markets for it. It must then, of course, become an article of manufacture, and of internal commerce, on a more respectable scale.

2d. '*To prevent waste of grain, to keep up a steady demand, and to furnish an equable steady supply, both in bulk and in retail*'—Let corn merchants with proper capital, granaries, and shops, be more encouraged at home, especially in large towns. This class of men are absolutely necessary, to prevent extremes in the prices. In cheap seasons they purchase from the farmer, and preserve the grain from waste; and when scarce, it comes out of their stores, and prevents famine, or even excessive dearth.

3d. '*To obtain a surplus of grain, for covering the wants of bad seasons, and preventing our dependence on foreign countries, and the drainage of our treasures*'—Let the culture of grain be not only allowed, but encouraged, for the manufactures of starch, pot barley, and malt; and for the subsistence of every kind of animal useful in our domestic œconomy, particularly swine, poultry, and cattle; and also for the subsistence of horses. Much advantage results from this system in common seasons, as it brings to market abundance of fat, dairy produce, poultry, eggs, starch, and malt; and from the combined effect of retrenchment in bad seasons, we might secure that surplus at home which, as matters now stand, must be sought for abroad. The more grain that we can rear above what is necessary for the immediate use of man, the larger will that surplus be, and the more effective in bad seasons. But while the application of grain in most of these purposes is so much discouraged, partly by the laws, and partly by an

an erroneous but common prejudice, the immenſe advantages of ſuch a ſyſtem, both in favourable and bad ſeaſons, muſt be given up.

4th. '*To provide againſt the failure of any particular kind of grain*'—Let the culture of all the varieties and kinds be encouraged, on the moſt extenſive ſcale, and in full crops. Then may wheat, oats, and barley mutually ſupply each other's deficiencies; and peas, beans, and rye may be uſeful auxiliaries: whereas, by diſcouraging the culture of any of theſe kinds of grain, particularly wheat, oats, or barley, a ſeaſon may come that ſhall be adverſe to the grain moſtly cultivated, and yet would poſſibly have been favourable to the kind that has been injudiciouſly laid aſide: the conſequences muſt then be ſerious. This matter may ſoon come to be felt, inſtead of being dreaded, if the culture of barley continue to decline, as it does rapidly at preſent.

5th. '*To obtain ſubſtitutes for grain*'—Let the culture of roots and greens be encouraged. It would be difficult to compute the benefits derived from the uſe of potatoes: and when cabbages, greens, turnips, and other eſculents are alſo reared, the ſoil is improved by the variety of its productions; the public have the comfort of that variety; there is a large addition, not only of roots and green articles, but alſo of milk, butter, and cheeſe, and of fat, for their ſupport: and the complicated advantages are very important.

6th. '*If the policy of our laws ſhall prefer any one kind of grain before another*'—Then we ſhould encourage that grain which is moſt productive of meal, and leaſt ſevere on the ſoil; or, in other words, the grain moſt favourable to an improved culture of the earth. It requires no evidence that barley is this kind of grain. The culture of barley is favourable to the community in every view: It is an early grain, very productive in meal from an acre, and favourable to the increaſe of produce, by means of increaſing fertility. Wheat and oats are, comparatively, robbers of the ſoil, and unfavourable to the views of enlarged produce by good culture. Yet wheat and oats have met with no diſcouragement, when the taxes on manufactured barley have almoſt proſcribed both the uſe and the culture of this valuable grain.

7th. '*To recover the immenſe advantages of an export trade in grain*,'—and thereby to increaſe the manufacture and commerce of Britiſh grain, and to draw the treaſures of leſs induſtrious nations in exchange for it, are objects of very great importance, yet not eaſily to be attained. The charges on arable lands are ſo high in Britain, that great difficulties occur in contending with other nations, where the culture of grain is leſs expenſive. Bounties on exported grain readily offer themſelves as a mean for accompliſhing this object. But why not encourage the export of

grain in a manufactured ſtate, on a more liberal plan? Spirits, ſtrong ale, ſtarch, ſplit-peas, meal and flour, pot-barley, and every other product of grain, appear to be entitled to encouragement for exportation. What a ſource of valuable labour, improving cultivation, and advantageous commerce, would this export trade afford us? What a valuable additional ſecurity againſt want and dependence, and what an extended ſtimulus to the ample production of corn? The difficulties in the way are great; yet we truſt the patriotiſm, genius, and ſpirit of the country, may be able to ſurmount them, and to ſave a drainage of treaſure, which no other nation but Britain could have afforded, and to which, after thirteen years experience, all agree that it is neceſſary to put an end.

Kirkpatrick Manſe, 1804. WM. SINGERS.

Report from the Committee on Recommitted Report reſpecting the Corn Trade. Ordered to be printed 14th June 1804.

THE Committee, to whom the Report was recommitted, which was made from the Committee who were appointed to conſider of ſo much of the ſeveral petitions of land-owners, barley-growers, maltſters, and others, in the counties of Norfolk, Suffolk, Stafford, Warwick, Eſſex, and Lincoln, which were preſented to the Houſe upon the 15th and 29th days of February, and the 28th and 29th days of March laſt, as relates to an act paſſed in the 31ſt year of his preſent Majeſty, for regulating the importation and exportation of corn, and the payment of the duty on foreign corn imported, and of the bounty on Britiſh corn exported, and to report the ſame, with their obſervations thereupon, to the Houſe; and to whom the ſeveral accounts and papers, which have been preſented to the Houſe in the preſent Seſſion of Parliament, reſpecting corn, grain, and malt, were referred;—Have, in purſuance of the inſtructions which they received, proceeeded to examine the act of the 31ſt of the King, and to take, from the beſt information they could obtain, a comparative view of the price of labour, and of the unavoidable expences incident to the grower, in the year 1791, and at this time, as the beſt criterion by which they might judge of what ought to be the price of the different ſpecies of grain, allowing to the grower ſuch a fair and reaſonable profit as may induce him to purſue that line of huſbandry which will the moſt contribute to the production of ſuch an ample ſupply of the different kinds of corn and grain, as may be ſufficient for our conſumption. This ſupply cannot be expected without a conſiderable ſurplus, in plentiful years, above the demand of the home market: it therefore becomes deſireable, that the grower ſhould have ſuch a ready ſale for that ſurplus by exportation, and bounty if requiſite, as may remove all apprehenſion of his not being able to obtain, from a glut of the commodity at the home market, ſuch a price for that ſurplus as will afford him an equitable profit on his labour, induſtry, and capital, employed in its production. Is appears, then, to your Committee, that the ſureſt mode by which an ample ſupply can be expected,

expected, is to endeavour to ſecure an uniform and reaſonable price to the growers.

Your Committee find, that the act paſſed in 1791, giving a power to the King in Council, when Parliament is not ſitting, of prohibiting the exportation of corn, if the average price thereof, taken from the return of the whole kingdom, is higher than the price at or above which foreign corn of the ſame ſort is allowed to be imported at the low duties; and to permit generally, for three months certain, the importation of ſuch ſort on the loweſt duties then payable, ought never to be exerciſed but upon a ſtrong and incontrovertible neceſſity; as it may otherwiſe operate as a great diſcouragement to the growth and production of corn in this kingdom, by rendering the market uncertain, by making the export trade liable to be ſtopped, and by enabling a general import of foreign corn to be poured into the kingdom for the term of three months, at ſo ſmall a variation and advance of price in the home market, as may perhaps be occaſioned for the purpoſe of producing that effect.

Your Committee are cautious of recommending a repeal of that part of the act, leſt a neceſſity for the exerciſe of that power might poſſibly ariſe, thinking it better, under ſuch circumſtances, that it ſhould be exerciſed according to law, than in oppoſition to it: In full confidence, that by due encouragement to the agriculture of the country, and by bringing the crown and waſte lands into cultivation, the product of the growth of corn in the united kingdom will afford ſuch regular and ample ſupply for its conſumption, as to admit the repeal of that power given to his Majeſty's Privy Council, without the danger of any detriment ariſing therefrom to the public.

It appears to your Committee, that the price of corn from 1791 to the harveſt of 1803, has been very irregular, but upon an average increaſed in a great degree by the years of ſcarcity, has in general yielded a fair profit to the grower. The caſual high prices, however, have had the effect of ſtimulating induſtry, and bringing into cultivation large tracts of waſte land, which, combined with the two laſt productive ſeaſons, and other cauſes, have occaſioned ſuch a depreſſion in the value of grain, as it is feared will greatly tend to the diſcouragement of agriculture, unleſs maintained by the ſupport of Parliament.

Your Committee therefore recommend the tables hereto annexed, marked (A.) and (B.) to be adopted inſtead of thoſe in the act of the 31ſt of the King, as more fitted to the circumſtances of the preſent times, except ſo far as relates to the import and export from and to Ireland; and your Committee recommend as a neceſſary meaſure, that the import to Ireland from foreign parts, and the export from Ireland to foreign parts, ſhould be regulated at the ſame time upon the ſame ſcale, and to a proportionate amount, as in the annexed tables, calculated on Iriſh meaſure, and in Iriſh money.

It appears further to your Committee, that the aggregate average prices of the twelve maritime diſtricts of *England*, and of the four maritime diſtricts of *Scotland*, as particularized in the act of 1791, is the proper rule by which the tables for regulating the import of corn into

Great Britain ought to be governed, and that the export from each diſtrict ſhould continue to be governed as it now is, by the regulations of that act; and that the duties payable on foreign corn imported into any diſtrict where the average price thereof is below the aggregate average price of the twelve and of the four diſtricts reſpectively, ſhould be governed by the average price of ſuch diſtrict, purſuant to the annexed tables, and aſcertained by the act of 1791.

Your Committee have been induced to make an alteration in the proportion of the export prices of barley, from its being ſubject to increaſed taxation, from which other grains have been exempt; and further ſtate, that it appears to them, that there has been a balance in favour of barley for the laſt thirty-four years, while the balance has been in favour of the importation of wheat and oats. From this circumſtance, your Committee have drawn the concluſion, that that immediate relief will not be afforded to the growers of barley, which it is conceived the growers of wheat will receive, by the alterations in the importation table.

The object of your Committee, in fixing the price at which the ports ſhall be opened for the general importation of corn ſo much higher than the price at which it is permitted to be exported, is to encourage the ſurplus of one diſtrict to be ſent for the ſupply of another in want of it, that the import into one part of the kingdom, and the export from another at the ſame time, may thereby be checked, and the prices throughout the kingdom be made more equal.

With this view, your Committee recommend the adoption of meaſures calculated to promote the intereſts of the grower, conceiving that a due encouragement to agriculture is the beſt and moſt effectual mode of enſuring to the conſumer an adequate and regular ſupply, at a reaſonable rate, as well as of obviating thoſe frequent fluctuations in price ſo injurious both to the grower and the public; and alſo in future to ſecure to this country, as far as poſſible, the advantage of ſuch enormous ſums, as your Committee find, have exceeded thirty millions in the laſt thirteen years, which ſums, employed in the purchaſe of corn abroad, cannot fail to have operated as a bounty upon the agriculture of foreign countries, to the detriment of our own; whereas it appears by the corn returns, that in the courſe of years, when the regulations were moſt favourable to the growers, and when the leaſt check was put upon the trade, the export of corn from this kingdom, for more than ſixty years in ſucceſſion, produced annually ſix or ſeven hundred thouſand pounds, leaving beſides, at a regular and moderate price, an ample ſufficiency for the home conſumption.

TABLE (A), ſhewing the Prices to which the ſcale of Bounty is to attach on the Export of Corn, Ground Corn, Flour or Meal, Malt, &c.; and the Prices at which the Exportation is prohibited.

WHEAT, when exported to any foreign country.	s.	d.
If at or under 48s. *p.* qr.—bounty	5	0
If above 48s. and not exceeding 52 —do. - -	2	6
If above 52s. no export allowable.		

RYE.	s.	d.
If at or under 32s. *p.* qr.—bounty	3	0
If above 32s. and not exceeding 34s. —do. - -	1	6
If above 34s. no export allowable.		

Table

TABLE (A) continued.

PEAS and BEANS.

	s.	d.
No export allowable when above 34s. *p.* qr.		

BARLEY, BEER or BIGG.

If at or under 28s. *p.* qr.—bounty	2	6
If above 28s. and not exceeding 30s. —do.	1	3
If above 30s. no export allowable.		

OATS.

If at or under 16s. *p.* qr.—bounty	2	0
If above 16s. and not exceeding 18s. —do.	1	0
If above 18s. no export allowable.		

WHEAT FLOUR, *i. e.* BISCUIT.

High bounty *p.* cwt.	1	6
Low do. *p.* do.	0	9

WHEAT MEAL.

High bounty *p.* cwt.	1	3
Low do. *p.* do.	0	7½

RYE MEAL or FLOUR.

High bounty *p.* cwt.	0	9
Low do. *p.* do.	0	4½

BARLEY, BEER, or BIGG MEAL.

High bounty *p.* cwt.	0	10
Low do. *p.* do.	0	5

OAT MEAL.

High bounty *p.* cwt.	1	0
Low do. *p.* do.	0	6

N. B.—Exportation not allowable when the particular kind of grain from which the above articles are manufactured exceeds the price at which export is permitted.

TABLE (B), shewing the Prices according to which High or Low Duties are to take place on Importation.

WHEAT, when imported from the province of Quebec, or the other Britiſh colonies or plantations in North America:

	s.	d.
If under 61s. *p.* qr.—duty	24	3
If at or above 61s. but under 65s. —do.	2	6
If at or above 65s.—do.	0	6

When imported from any other foreign country:

If under 63s. *p.* qr.—duty	24	3
If at or above 63s. but under 66s. —do.	2	6
If at or above 66s.—do.	0	6

RYE, BEANS, PEAS, when imported from the province of Quebec, or the other Britiſh colonies or plantations in North America:

If under 40s. *p.* qr.—duty	22	0
If at or above 40s. but under 43s. —do.	1	6
If at or above 43s.—do.	0	3

When imported from any other foreign country:

If under 42s. *p.* qr.—duty	22	0
If at or above 42s. but under 44s. —do.	1	6
If at or above 44s.—do.	0	3

BARLEY, BEER, or BIGG, when imported from the province of Quebec, or the other Britiſh colonies or plantations in North America:

If under 30s. 6d. *p.* qr.—duty	22	0
If at or above 30s. 6d. but under 32s. 6d.—do.	1	3
If at or above 32s. 6d.—do.	0	3

When imported from any other foreign country:

If under 31s. 6d. *p.* qr.—duty	22	0
If at or above 31s. 6d. but under 33s.—do.	1	3
If at or above 33s.	0	3

Importation of WHEAT MEAL and FLOUR, to be governed as follows:

When imported from the province of Quebec, or the other Britiſh colonies or plantations in North America:

High duty *p.* cwt.	6	6
Firſt low duty *p.* do.	1	6
Second do.	0	2

When imported from any other foreign country:

High duty	6	6
Firſt low do.	1	6
Second do.	1	0

OATS, when imported from the province of Quebec, or the other Britiſh colonies or plantations in North America:

If under 20s. *p.* qr.—duty	6	7
If at or above 20s. but under 21s. —do.	1	0
If at or above 21s.—do.	0	2

When imported from any other foreign country:

If under 21s. *p.* qr.—duty	6	7
If at or above 21s. but under 22s. —do.	1	0
If at or above 22s.—do.	0	2

TABLE (B) continued.

OAT MEAL, when imported from the province of Quebec, or the other British colonies or plantations in North America:	s.	d.
If under 19s. *p.* boll of 140 lib. Avoirdupois, or 128 lib. Scotch Troy—duty *p.* boll -	8	0
If at or above 19s. *p.* boll but under 20s.—duty - -	1	0
If at or above 20s.—do. -	0	2
When imported from any other foreign country:		
If under 20s. *p.* boll—duty	8	0
If at or above 20s. but under 21s. —do. - -	1	0
If at or above 21s.—do. -	0	6

Importation of INDIAN CORN or MAIZE, to be governed by the price of barley as follows:		
When imported from the province of Quebec, or the other British colonies or plantations in North America:	s.	d.
High duty *p.* qr. - -	22	0
First low do. - -	1	3
Second do. - - -	0	3
When imported from any other foreign country:		
High duty - -	22	0
First low do. - -	1	3
Second do. - - -		3

Every kind of Grain, when manufactured into Malt or Meal, prohibited, excepting Wheat Meal or Flour, and Oat Meal.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

A Statement of Expences attending the Culture of Corn in 1790 *and* 1804, *presented to the Committee of the House of Commons by the Proprietors and Farmers of Norfolk. With some Desultory Observations thereupon.*

SIR,

A PETITION was lately presented to Parliament from this county, complaining of the hardships sustained by agriculturists from impolitic corn laws and the heavy duty upon malt; and I send you a statement, drawn up by an intelligent agriculturist, in support of the petition which was laid before those in power, and received much attention. Perhaps some parts of the statement may be considered as objectionable, because the value of crops during a whole rotation is not precisely marked down; but whatever weight may be attached to this circumstance, I venture to assure you, that the statement is correct, so far as respects the value of labour at the periods mentioned, therefore entitled to the serious consideration of every agriculturist.

STATEMENT.

Rate of Rents, and various Charges on Arable Farms, previous to the year 1790, in the western part of Norfolk.	Rate of Rents, and various Charges on Arable Farms, at this time, in the same District.
The rent, 10s. and 15s. *p.* acre.	Now, 15s. to 18s. *p.* acre.
Tithes, 2s. to 2s. 6d. *p.* do.	—— 3s. 6d. 4s. and 5s. *p.* do.
Poor's rates, 1s. and 1s. 6d.	—— 3s. 4s. and 5s.; in many places more
Labour, 14d. *p.* day.	—— 2s.
Thrashing wheat, 1s. 8d. *p.* qr.	—— 3s. 6d. *p.* qr.
Do. barley, 10d. *p.* do.	—— 1s. 6d. *p.* do.

And for other grain thrashing in like proportion.

Pitching

Ditching or fencing 1s. 3d. *p.* rood.	Now, 2s. and 2s. 3d. *p.* rood.
Filling and ſpreading clay, 21s. *p.* hund.	—— 30s. *p.* hund.
Do. do. muck, 18s. *p.* do.	—— 25s. *p.* do.
Cutting and harveſting corn, 5s. *p.* acre.	—— 8s. *p.* acre.
Oil-cake for manure, 4l. *p.* ton.	—— 7l. and 8l. *p.* ton.
Ditto for feeding cattle for the ſake of manure, from 7l. to 9l. *p.* ton.	—— 12l. *p.* do.

BLACKSMITHS.

Shoeing cart horſes, 5d. *p.* ſhoe.	Now, 7d. *p.* ſhoe.
Tire for carriage wheels, and for other iron work, 3¼d. *p.* lib.	—— 5¼d *p.* lib.

WHEEL-WRIGHTS.

Waggon, 12l.	Now, 20l.
Cart, 2l.	—— 3l. 10s.

COLLAR-MAKERS.

Geers or harneſs for 4 horſes, from 7l. to 9l.	Now, 12l. and 14l.
Traces, 6d. *p.* lib.	—— 9d. *p.* lib.

All day-work and jobbing by the above three branches of trade are advanced in a much higher proportion.

The Expences of growing a Barley Crop prior to the Year 1790 may be eſtimated as follows:

First, The TURNIP CROP as a Preparative.

Three ploughings, &c. at 3s. 6d. *p.* acre	L.	0	10 6
Muck, ten load *p.* acre, and cartage		1	12 6
Filling and ſpreading		0	1 8
Seed and hoeing		0	7 0
Rent, 10s.; tithes, 2s.; town charges, 1s.		0	13 0
	L.	3	4 8
The then average value of turnips *p.* acre		1	10 0
Deficiency or loſs	L.	1	14 8

in the Turnip Crop, to come out of the ſucceeding Barley Crop.

Three ploughings, &c. for barley	L.	0	10 6
Seed, three buſhels, at 20s. *p.* quarter		0	7 6
Rent, tithes, and town charges		0	13 0
Harveſting		0	5 0
Thraſhing 3½ quarters.; the average produce *p.* acre at 10d. *p.* quarter		0	3 0
Carrying out to market		0	3 0
	L.	3	16 8
The average produce 3½ quarters, at 20s. *p.* quarter		3	10 0
Loſs *p.* acre on a barley crop	L.	0	6 8

'Thus it appears, on a fair calculation of expences, that a barley crop, even at the old rate of rents, tithes, labour, and poor rates, was by no means a profitable crop, at the general average of 3½ quarters per acre; and that the profit of arable land, under this ſyſtem of management, muſt be derived more from the ſtock kept on the ſame during the ſucceeding two years lying in graſs, and the following wheat crop on the flag upon one earth, than on the barley crop, whilſt this grain is at ſo low a price. And for the further deficiency or loſs in this crop, occaſioned by the increaſed rate of rents, &c. &c. &c. and low price of barley, ſee as follows.

TURNIP

TURNIP CROP, 1804.

Three ploughings at 5s.	L.	0	15	0
Mucking, ten load *p.* acre, at 3s. *p.* load, and cartage 1s.		2	0	0
Filling and ſpreading, 2½d. *p.* do.		0	2	0
Seed and hoeing		0	7	6
Rent, 15s.; tith , 3s. 6d.; town charges, 2s.		1	0	6
	L.	4	5	0
Average value of one acre of turnips		2	5	0
Deficiency or loſs on the turnips at this time	L.	2	0	0

For ſucceeding barley crop, three ploughings at 5s.	L.	0	15	0
Seed, three buſhels at 20s. *p.* quarter		0	7	6
Rent, 15s.; tithe, 3s.; town charges, 2s.		1	0	0
Harveſting, at 7s. 6d. *p.* acre		0	7	6
Thraſhing, 3¾ quarters at 1s. 6d. *p.* quarter		0	5	3
Carting to market		0	4	8
Add		0	0	1
	L.	5	0	0
To 3½ qrs. of barley, the average produce at the preſent average price 20s.		3	10	0
Deficient	L.	1	10	0

'Thus the loſs on the barley crop at the preſent time appears to be four times more than it was prior to the year 1790; whilſt the price of fat meat, and that of wheat, the next ſucceeding crop of corn, to both of which we ought to look for replacing the deficiency, are alſo much reduced in value; and the occupiers ſubject at the ſame time to the increaſed charges or taxes on horſes, and other aſſeſſed taxes, and ninepence in the pound on their rack-rent as on income, which income, I fear, in very few inſtances, as corn now ſells, can have any real exiſtence, and will be found an oppreſſive meaſure, and the tax with great difficulty raiſed. To theſe ſtatements may be added, the intereſt of, at leaſt, 5l. per acre, being the value of capital employed, as alſo an allowance for the farmer's time, all which ought to be taken into account.—It may not be improper to add, that as, at leaſt, four fifths of the lands, lately brought into cultivation by encloſure, &c. &c. are of that quality that they cannot be kept in a proper ſtate of tillage, but at an extra expence to lands of ſuperior quality, at the preſent price of corn, theſe muſt, in great part, go out of cultivation; and every agriculturiſt well knows, that if laid down to paſturage again, fifty years will not return them to as good an herbage as they were taken from. Thus, for the firſt two or three years they may grow ſomething, the next ten nothing; next five very little, and ſo on; by which a certain loſs to the community muſt be experienced, and oftentimes large ſums of money again expended for the importation of corn, which I have not the leaſt heſitation of affirming might, and will be grown in the United Kingdom, if the ſpirit of agriculture is kept on by a fair remunerating price of corn; while the ſmall extra price to the preſent price of corn, it muſt be recollected, will revert back again to the conſumer in every branch of trade, who, I take the liberty of aſſerting, directly or indirectly, feels more or leſs the effect of the oppreſſion the agricultural intereſt ſuſtains at this moment.'

I feel ſome heſitation in admitting the opinion given in the above ſtatement, that a quantity of corn may at all times be grown in this iſland ſufficient for the conſumpt of its inhabitants, were the preſent ſpirit of agriculture kept up by a fair remunerating price. My reaſons for heſitating to concur in this opinion, ſhall be given in a few words, leaving you to judge of their validity.

The quantity of corn raiſed in different years, muſt be regulated in a great meaſure by the temperature of the weather which prevails in each: hence, it is no uncommon thing for farmers, in ſome ſeaſons, to have one fourth, nay, even one third more produce from the like extent of ground than what they have in others. The ſeaſons are not under the controul or direction of Parliament; therefore any thing that can be done by the Legiſlature muſt prove inſufficient for accompliſhing a regular and permanent ſupply of home corn to the inhabitants of Great Britain. I grant, that a ſtimulus to agriculture may be obtained by ſecuring the home market to a certain degree, excluſively, in favour of our farmers; but that a quantity of corn can *at all times* be grown at home ſufficient for the conſumpt of the people, I can by no means admit. To be ſure, if agriculture is ſtimulated and excited, the deficiency ariſing from bad ſeaſons will be leſs felt than if encouragement had been withheld; therefore I acknowledge that a fair remuneration to the grower is the beſt method of procuring the greateſt poſſible ſupply of grain at all times.

The price of corn may, in ſome ſmall degree, be affected by other cauſes, though ſo trifling as hardly to deſerve notice. During the late war, when wheat advanced to 160s. per quarter, and barley to 80s. I was conſidered by many people as deſerving a ſtrait jacket, becauſe, in defiance of the general ſentiment, I maintained that war was not the cauſe of theſe extravagant prices. It was in vain that I urged the ſtate of the corn trade during former wars, particularly during the American conteſt, when corn was literally a drug in the market. Indeed, the prices of the paſt year furniſh a ſtrong corroborative proof that the corn trade is influenced little either by war or peace; but that ſeaſons are altogether the barometer, if I may uſe the expreſſion, which regulate the market value. If good crops are procured for two or three years ſucceſſively, corn will be plentiful, conſequently muſt be cheap; whereas, if we are viſited with a ſeaſon or two of an adverſe kind, ſuch as 1799 and 1800, ſcarcity and advanced prices will ſurely follow. In a word, the more I conſider the opinion now examined, the impracticability of gaining a regular and conſtant ſupply of grain more clearly appears.

I am, yours, &c.

Norfolk, 1804. A FRIEND TO AGRICULTURE.

EXCERPTS

EXCERPTS *from the Report of the Committee appointed to inquire whether any, and what Difference ought to be allowed in the Rate of Duty payable on Malt made from Barley of the Growth of England, and from Barley and Bigg of the Growth of Scotland.*

YOUR Committee find, that a tax on malt was originally eſtabliſhed in England during the troubles in the reign of Charles I.; but it is unneceſſary, upon the preſent occaſion, to trace it farther back than to the year 1697, when by an act (8th and 9th William III. cap. 22.) a duty of 6d. per buſhel was impoſed on malt, and proportionable ſums on certain liquors, as cyder and perry, which might otherwiſe prevent the conſumption of that article. It was at firſt given for two years and a quarter, but for many years paſt it has only been granted from year to year, and hence it is known by the name of the 'Annual Malt Tax.'

The exigencies of the ſtate, however, ſoon rendered it neceſſary to impoſe heavier duties upon ſo extenſive an article of conſumption; and in later times, theſe additional taxes, inſtead of being temporary, were made permanent, for the purpoſe of defraying the intereſt of various loans. The firſt permanent duty was impoſed *anno* 1760, at the rate of 3d. per buſhel; a further tax of 15 *per cent.* was granted *anno* 1779; and an additional permanent duty of 6d. $\frac{1}{4}$ $\frac{3}{10}$ per buſhel was impoſed *anno* 1780. As it became difficult, however, to collect theſe permanent taxes, and to keep the accounts ſeparate, whilſt they conſiſted of ſuch minute fractions, they were conſolidated in the year 1787, and one permanent tax, to the amount of 9$\frac{3}{4}$d. per buſhel, was impoſed. But the nature of this tax was changed, when the plan for redeeming the land-tax was adopted; for as it became neceſſary to ſubſtitute a ſure and productive revenue, in lieu of that branch, the above mentioned permanent tax on malt was among others ſelected, and ever ſince it has likewiſe been annually granted, as a ſubſtitute for the annual land-tax.

In the year 1802, an addition was made to the former duties on malt to the amount of 1s. $\frac{1}{4}$d. per buſhel; which was of a permanent nature; and in 1803, a further tax, at the rate of two ſhillings per buſhel, was impoſed, to continue during the preſent war, and for ſix months after its concluſion.

The following, then, are the taxes on malt now payable in England:

		Per Buſhel.		
1. Old annual malt tax - - - - -	L.	0	0	6
2. Annual malt tax, in lieu of the annual land tax		0	0	9$\frac{3}{4}$
Total annual	L.	0	1	3$\frac{3}{4}$
3. Permanent malt tax, *anno* 1802 - - -		0	1	0$\frac{1}{4}$
4. Temporary malt tax, to continue during the war, granted *anno* 1803 - - - -		0	2	0
Total duties on malt in England	L.	0	4	4

In the Appendix, a particular account is given of the malt tax in Scotland. It appears from that detail, and from the information

tion which De Foe furniſhes in his Hiſtory of the Union, that the Scotiſh Commiſſioners, when the treaty was negociating, ſtruggled earneſtly to be totally exempted from any tax on malt. But the difference between the two countries, in regard to this important particular, was at laſt compromiſed in the following manner, that Scotland ſhould be exempted from the malt tax during the continuance of the war which then ſubſiſted, after which any further exemption was referred to the Parliament of Great Britain, with this expreſs declaration, in the words of the 14th article of the Union, 'That it cannot be ſuppoſed the Parliament of Great Britain will ever lay any burden, but for the good of the whole, and with due regard to the abilities and circumſtances of every part of the United Kingdom.'

In 1713, the annual malt tax of 6d. per buſhel was firſt extended to Scotland; but after a trial of twelve years, it was thought adviſeable, in 1725, to reduce it to one half of that ſum; and during the whole period, from 1725 to 1802, the malt made in Scotland was only charged one half of the rates impoſed in England. The taxes granted in 1802 and 1803, however, were extended over the whole iſland, with the exception of 8d. per buſhel on bigg, which was deducted from the laſt duty. The taxes on malt, therefore, payable in Scotland, are as follow:

		Per Buſhel.
1. Old annual malt tax	L. 0 0 3	
2. Annual malt tax, in lieu of annual land tax	0 0 $4\frac{7}{8}$	
Total annual	L. 0 0 $7\frac{7}{8}$	
3. Permanent malt tax, *anno* 1802	0 1 $0\frac{1}{4}$	
4. Temporary malt tax of 1803, to continue during the war	0 2 0	
Total tax on Scotch barley	L. 0 3 $8\frac{5}{8}$	
Deduction in favour of Scotch bigg, *anno* 1803	0 0 8	
Total tax on Scotch bigg	L. 0 3 $0\frac{5}{8}$	

The following, therefore, are the duties on malt, whether made of barley or bigg, now payable in the two countries:

1. On malt made of Engliſh barley	0 4 4
2. On malt of Scotch barley	0 3 $8\frac{5}{8}$
3. On malt of Scotch bigg	0 3 $0\frac{5}{8}$

Such are the preſent rates; but it is to be obſerved, that, during a period of ſeventy-ſeven years prior to 1802, the difference was ſtill greater, Scotch malt paying only one half of the duty charged on Engliſh malt.

In writings on Natural Hiſtory, barley is divided into four ſorts; but, for our preſent purpoſe, it is only neceſſary to conſider two of them, namely, the two-rowed barley, and that inferior ſort, commonly known under the name of bigg or bear.

The two-rowed barley is of ſo ſuperior a ſort, that it is always cultivated where it is poſſible to raiſe it with advantage. Its weight is greater, the grains are larger, the huſk thinner, and the farina of a more valuable quality, yielding proportionably more ſpirits, and not only a greater quantity of malt liquor, but alſo of a much better flavour.

Bigg,

Bigg, on the other hand, is described as having a much thicker and shorter spike than the two-rowed barley; but, at the same time, a greater number of grains in an ear or spike, in the proportion of at least from three to two, and often producing even forty-two grains, when common barley has but twenty-two. The ear of bigg, it is observed, is seldom more than 2 inches in length; it is square, with two rows of grains on two of the sides, and on the other two, a single row of grains runs up the middle.

In short, it is a different species of the same genus.

Bigg, it is well known, from its hardiness, and from its not requiring the same quantity of heat, nor the same length of time to ripen it as barley, is peculiarly well calculated for cold and mountainous districts in general: but there are circumstances which render the cultivation of that grain not only proper for, but indispensably necessary to, many very extensive tracts of country in Scotland.

In the first place, no other sorts of grain, but bigg and oats, can be raised in them; and as a rotation of crops is essential for productive husbandry, were the cultivation of bigg to be discouraged, the system of agriculture the best calculated for that part of the country would be at once overturned. In the second place, bigg, from its being sown later in the season than oats, requiring more ploughings and a finer tilth, and remaining for a shorter space of time on the ground, and being less affected by wind and rain, is the species of grain by far the best calculated for laying down arable land with sown grasses; hence, the artificial herbage, and consequently the improvement of the country, and its means of maintaining live stock, whether for cultivation or food, depends upon the culture of this plant. And, in the third place, the raising of bigg is the only means by which the northern and mountainous districts of Scotland can be protected from the horrors of famine. That grain, from the quickness of its growth, can be reaped in seasons where even oats have either totally failed, or are greatly damaged by rainy harvests: It furnishes food, therefore, in those periods of calamity, and with this additional circumstance in its favour, that a mixture of bigg with damaged oats can be converted into meal, which may be made use of in times of scarcity with safety; whereas, the meal of such oats, without such a mixture, could not be used at all, or at least without injuring the health of those who might be compelled to live upon it.

On all these grounds, Your Committee are impressed, not only with the necessity of promoting the cultivation of this species of grain in the northern or mountainous districts of Scotland, but also with the policy of avoiding, as much as possible, any measure by which the quantity usually produced is likely to be diminished; and in regard to any difficulty in distinguishing malt made of bigg, from malt made of Scotch or English barley, Your Committee beg to refer to an act passed in the course of last year (43. Geo. III. cap. 145.) by which regulations are already provided 'for preventing frauds, by making of malt from bear or bigg, in Scotland.' In the Appendix, there is an account

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of the quantity of bigg malted under that act, from midſummer to Chriſtmas 1803.

On the rate of duty which ought to be impoſed on malt made from barley of the growth of England, and from barley and bigg of the growth of Scotland.

In diſcuſſing this important part of the ſubject, Your Committee had two points under their conſideration, namely, 1. What was the average price of the barley and bigg produced in the two countries; and, 2. Whether that ought to be the ſole criterion according to which the rate of duty ought to be impoſed.

For the purpoſe of obtaining the information on the ſubject of the prices of theſe different ſorts of grain, Your Committee directed the following accounts to be laid before them: 1. The average prices of Engliſh barley, including the barley of Wales, for twelve years, ending 1ſt January 1804. 2. The average prices of Scotch barley during the ſame period. And, 3. The average prices of Scotch bigg. It may be ſufficient in this place to ſtate the totals, and the reſults.

	Per Quarter.		
Difference of price between Engliſh barley and Scotch barley, on the average of twelve years - - - -	0	7	2¼
Difference between Engliſh barley and Scotch bigg -	0	10	5½

The difference between theſe prices, taking the price of Engliſh barley as the ſtandard, may be thus ſtated: Scotch barley is 19¼ *per cent.*, and Scotch bigg 28½ *per cent.* lower than the average price of the barley of England, including Wales. Your Committee, however, find that the prices of grain, aſcertained annually by the Sheriffs of the different counties of Scotland, under the ſanction of a jury upon oath, (which are known under the name of 'the Fiars of the Year') are lower than even thoſe above mentioned. As to bigg, in particular, it appears that, for the laſt twelve years, the average price is 1l. 4s. with a ſmall fraction, or two ſhillings and five pence per quarter leſs than what is ſtated in the preceding Tables. This would make a difference of about 35 *per cent.* between the price of Engliſh barley and that of Scotch bigg.

Your Committee next proceeded to conſider, whether theſe prices ought to be accounted the ſole criterion according to which the proportion of duty on theſe articles ought to be impoſed.

Regarding this particular, it occurred, that grain of inferior quality requires more trouble and expence to manufacture it, either into ſpirits or into malt liquor, than where the article is intrinſically more valuable. For inſtance, 1,000 quarters of Engliſh barley, at the average price of 1l. 16s. 11d. per quarter, would be purchaſed for 1,845l. 16s. 8d.; the ſame ſum would purchaſe 1,395 quarters of bigg, at the average price of that grain, namely, 1l. 6s. 5¼d. On the ſuppoſition that the one would produce as much ſpirits or malt liquor as the other, yet, as more trouble and expence muſt be required to manufacture 1,395 quarters than 1000, there is no doubt which article the maltſter, the diſtiller, or

the brewer would prefer. It would therefore be unreasonable to impose the same quantum of malt-tax on the 1395 quarters of bigg, as on 1000 quarters of barley; and this observation must have additional force, when it is applied to an article, the cultivation of which, for various reasons already stated, ought in particular districts to be encouraged as much as possible.

On this point, and regarding a variety of other particulars connected with this inquiry, Your Committee beg leave to refer to the very satisfactory evidence given by the Reverend Doctor Skene Keith.

Under these circumstances, the Committee have found it difficult to form an opinion regarding the exact proportion of duty that ought to be imposed on all the different articles to which this report relates; at the same time, they have no doubt that there should be a deduction from the two last duties, in favour of Scotch bigg, to the amount of one third thereof. As to Scotch barley, the Committee have stated the facts contained in the Report and the Appendix, without, however, being able to agree in any conclusive opinion upon the subject.

Excerpts *from Dr* Skene Keith's *Evidence.*

Have you applied yourself to agricultural and chemical inquiries?

I have applied myself to both. With respect to agriculture, I have improved my own glebe, or parsonage lands, consisting of about 25 English acres, at a great expence; and I have turned my attention to the Corn Laws, and to the sale of corn by weight. In regard to chemistry, I have devoted a great part of my time and studies to the distillation of ardent spirits, from barley, bigg, and various other materials.

Is not the county of Aberdeen one of the largest and most productive counties in the northern parts of Scotland?

The county of Aberdeen is one of the largest in Scotland, and one of the most productive in the northern parts of that kingdom. It contains about 1300 square miles, or 654,000 Scotch, or 832,000 English acres in round numbers; it maintains nearly 124,000 inhabitants, or $\frac{1}{11}$th part of the population of Scotland; and it exports considerable quantities of oats and oatmeal, and also of bigg and of bearmeal.

Do they cultivate both barley and bigg in the county of Aberdeen?

Barley is very little cultivated in Aberdeenshire, because we have not heat in summer, except in very warm seasons, for ripening barley, which is nearly one third part longer on the ground than bear or bigg is, at an average of seasons. In late harvests, such as 1782 and 1799, the little barley we had was destroyed, which has rendered our farmers averse to the raising of barley; but we cultivate bigg, generally after turnips, with success.

What do you suppose the average quantity of each produced?

The quantity of barley is a mere trifle, as it is sown only occasionally by a few gentlemen farmers; and it is difficult to state an average that

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is both ſo ſmall at beſt, and is alſo ſo fluctuating. I don't think that we have 200 quarters raiſed, *communibus annis*, in the whole county; perhaps little more than 100 quarters annually. But of bear or bigg we raiſe a great deal; and to give any thing like a correct idea of this, I muſt ſtate the averages at *different periods*; for a *general average* would rather miſlead, than convey uſeful information. Before the introduction of the turnip huſbandry in this county (which cannot be traced farther back than forty years, and was not general till twenty years ago) we had probably 14,000 or 15,000 Scots acres, of what we termed our *infield* lands, annually ſown with bear or bigg; and the produce varied from 35,000 to nearly 50,000 quarters, according as the ſeaſons were good or bad. *Ten* years ago, when there was a *liberal competition* between the brewers in the towns and the numerous licenſed diſtillers who were ſcattered over the county (which occaſioned a *great demand* for bear or bigg) the great wide balks, or pieces of barren land, between the ridges of our infield or old croft lands, were ploughed up, the diſtinction between infield and outfield ground was gradually aboliſhed, and a great proportion of the latter was limed and manured for a crop of turnips; and then laid down with bear and graſs ſeeds. Our agriculture at this time was rapidly advancing towards perfection; and, at this period, or from 1790 to 1799, the quantity of bear or bigg annually raiſed was more than double of what it had been twenty or thirty years before, varying from 80,000 to about 110,000 quarters, according to the goodneſs of the ſeaſons. But the greater part of the county of Aberdeen being deprived of the privileges of the intermediate diſtrict in regard to diſtillation, and being ſubjected to the ſame laws, in regard to this, to which the Lowland counties of Scotland are ſubject, all our diſtillers, except a few in the Highland diſtrict of the county, were ſtopped in 1800, as they were not able to take out licenſes on the conditions then fixed, and at the high licenſe duty impoſed on the contents of their ſtills; and by depriving us of the demand from our licenſed diſtillers, our agriculture received a very ſevere check. In 1802, it was ſtill more deeply injured by the great addition to the malt-tax, and by impoſing the ſame addition upon all kinds of malt made either in England or in Scotland; which altered ſo very conſiderably the proportion of the ratio of taxation between Engliſh and Scotch malt, and was peculiarly unfavourable to the raiſing of bear or bigg in this county. This greatly reduced the quantity of that ſpecies of grain which was ſown in 1802 and 1803; and this year I believe we will not ſow much more than we did forty years ago. The crop of 1802 was very light, and required at leaſt one fourth part to be taken off or winnowed away in the dreſſing, owing to the coldneſs of the ſummer, and the lateneſs of the harveſt; ſo that it could not afford to pay the high taxes on malt; but was either given to our cattle, or made into bearmeal, or ſtill remains unſold. I know I could not ſell my own bigg (whether my ſtipend bear, or what was raiſed on my glebe) at any price to a maltſter; and that I was obliged to get it all made into meal laſt autumn, when it ſold only at 7d. or 7½d. per Aberdeenſhire peck,

or 1s. per 14 Engliſh pounds; and that I did not clear 10s. per quarter on the worſt, nor above 16s. on the beſt bigg of 1802; being obliged to empty my ſmall granary, and to make room for the excellent bear of 1803, which is 30 *per cent.* better than what I had in 1802, and 15 *per cent.* above the medium quality. I ſuppoſe we had 70,000 quarters in 1802, and laſt year (though leſs was ſown) 75,000.

What is the average value of barley compared to bigg?

The value of barley raiſed in Aberdeenſhire is extremely unequal. But, in general, we reckon 4 quarters of good barley equal to 5 quarters of good bigg. I ſhall afterwards detail the experiments by which I aſcertained the relative values (for the purpoſe of yielding ſpirits) of bear or bigg, and of Engliſh and Scotch barley, of certain ſpecified weights per buſhel.

Is the conſumption of malt increaſing or decreaſing in the county of Aberdeen?

The uſe of malt has decreaſed very much with us, owing to the ſtoppage of our licenſed diſtilleries, the late great addition to the malt-tax, and the alterations of the proportion of malt duty on bigg, and on Engliſh and Scotch barley.

What has been the effect of the late increaſe of the duties of malt in Aberdeenſhire in regard to the quantity conſumed?

I have already ſtated, that much leſs has been conſumed, owing both to the increaſe of the duties and the alteration of the ratio of taxation; I am now to ſtate, from the books of the Collector of Exciſe, how much the quantity of malt in the Aberdeen collection has decreaſed within theſe eighteen months, owing to both theſe cauſes, and eſpecially to the alteration of the ratio of taxation.

1*st*, From 24th June 1802 to do. 1803, Couch buſhels	-	119,433
- - - - do. - Floor buſhels	-	101,690
Total of both kinds - - Buſhels		221,123
But as a deduction of one fifth is to be made from the couch gauge, and of one half from the floor gauge, to convert them into dry malt, the above quantity of couch buſhels amounts only to		95,546.4
And the above quantity of floor buſhels is only	-	50,845.
The total quantity of dry malt, paying duty from 24th June 1802 to 24th June 1803, is	-	146,391.4

	£.	s.	d.
Paying a malt duty of 2c$\frac{1}{3}$ per buſhel, or in all -	12,275	10	6

2*dly*, From June 24th to December 24th 1803, Couch buſhels		29,181
- - - Do. - - Floor buſhels		35,771
Groſs amount of 6 months ſince the laſt additional tax		64,952
But after deducting as above $\frac{1}{5}$th for the couch gauge, - - - - Couch only		23,344.8
And after one half from the floor gauge, Floor only		17,885.5
Total of dry malt for laſt 6 months - -		41,230.3
Paying a malt duty of 3s. $\frac{1}{3}$ per buſhel, or in all L.	6,206	0 4

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This is only 68l. 5s. 1d. more than *half* of the 12,275l. 10s. 6d. which the malt-tax produced when the duty was only $\frac{5}{9}$ of what it is ſince June laſt; and it proves both that the late increaſe of the duties on malt has produced *no addition* to the Revenue, but has been attended with a real loſs (as *ſome hundred pounds additional expences* have been incurred in collecting it); and alſo, that the people of Aberdeenſhire uſe only 5 buſhels of malt, where they laſt year uſed 9 buſhels; an equal loſs to the agriculture of the county, and to the comfortable ſubſiſtence of its inhabitants.

What is the uſual time of reaping or cutting down and harveſting barley and bigg?

This depends very much on the ſeaſon. Harveſt begins in this county at all periods from the 10th of Auguſt to the 17th of September, for cutting bear or bigg; the medium may be about the 24th of Auguſt. Barley is generally two weeks later than bear in our county, and in a late ſeaſon three or four weeks later; in which caſe, it is generally an unproductive crop. In 1782, I did not cut down my bear till the 13th of November.

With reſpect to the harveſting of bear or bigg after it is cut down, this depends upon the expoſure of the field, on the ſtate of the weather, and on its being ſown down with graſs ſeeds or not. If ſown with graſs ſeeds, in a late ſeaſon the grain lodges, and both deſtroys the graſs and alſo injures the ſubſequent crop. With many other advantages in favour of the new huſbandry, this is one of the diſadvantages of an improved cultivation, in a bad ſeaſon and a northerly climate, to which we muſt ſubmit for a greater advantage.

Have you made any experiments to aſcertain the different qualities of barley, bear, and bigg, in regard to the ale and ſpirits which each will produce? and under whoſe authority did you make theſe experiments?

I have made a number of experiments in diſtillation in the years 1799, 1802, and 1803.

The firſt was at the deſire of the Scotch Diſtillery Committee, when I was before them as an evidence in 1798, and when the Committee gave their recommendation in my favour to the Commiſſioners of Exciſe in Scotland. This firſt ſeries of experiments was therefore under the joint authority of the Diſtillery Committee of the Houſe of Commons, and of the Scotch Board of Exciſe. My parole evidence as to matters of fact, and my written anſwers to queſtions of ſcience, are printed in the Appendix to the Report of the Diſtillery Committee in 1798; and two reports of my experiments, along with a paper on the diſtillery laws, are publiſhed in the Appendix to the Report of the ſame Committee in 1799. At that time I diſtilled nine kinds of ſpirits, from malt, raw grain, carrots, and potatoes.

The ſecond ſeries of experiments was made in 1802, under the ſole authority of the Commiſſioners of Exciſe in Scotland. That year I diſtilled fifteen different kinds of ſpirits from roots, with only a ſmall proportion of malt for promoting the fermentation.

The third ſeries of experiments was conducted in 1803, alſo under the above authority; when I diſtilled various combinations of roots, raw ſugar, and lees of wine; and afterwards aſcertained, by diſtillation, the relative values of weak, middling, and good bigg, and of Engliſh and Scotch barley. I have drawn up, in a ſeparate paper, a general view of my whole experiments, to which I refer for more particular information. I only judge it neceſſary, in this place, to ſtate, that the quarter of Engliſh barley, containing 51 avoirdupois pounds per buſhel, and 10,016 barley corns in the pound, when made into malt, and properly brewed and attenuated to 9, yielded, in a medium of two experiments, 23 gallons of ſpirits, 1 to 10 above proof;—that a quarter of Scotch barley, weighing 48 pounds per buſhel, and containing 11,560 grains in the pound, malted and treated in the ſame manner, produced $18\frac{1}{2}$ of the ſame ſtrength; that a quarter of the beſt bigg, weighing 46 pounds per buſhel, and containing 14,112 bear corns in the pound, when treated in like manner, yielded $15\frac{5}{9}$ gallons;—that a quarter of middling bigg, weighing 42 pounds per buſhel, and containing 16,995 bear corns in the pound, produced $10\frac{3}{7}$ gallons of ſpirits;—and that a quarter of weak bigg, weighing 36 pounds per buſhel, and containing 21,248 bear corns in the pound, yielded $7\frac{6}{10}$ gallons, 1 to 10 above hydrometer proof.

What is the reſult of your experiments in regard to the quantum of tax that ſhould be impoſed according to the different qualities of barley and bigg?

In general it is to be obſerved, that a manufacturer ſhould have the price of the raw material, the expence of labour, the intereſt of his capital, and the rent of his premiſes, and alſo a decent profit on his trade, beſides paying the taxes of Government. It is more difficult to obtain all theſe things, when coarſe materials are uſed, than where finer are employed. But the beſt general rule would be, when the raw materials are only $\frac{3}{4}$ of the value of finer materials, to make that ſimple fraction a compound one, and call it $\frac{3}{4}$ of $\frac{3}{4}$, or $\frac{9}{16}$; which ſhould be the ratio of taxation. In like manner, if the raw materials be $\frac{2}{3}$ in value, then the tax ſhould be $\frac{2}{3}$ of $\frac{2}{3}$, or $\frac{4}{9}$ of the tax which is paid for the beſt materials. On theſe principles, the beſt judgement I can form, in conſequence of the experiments which I have conducted, and the neareſt calculation that I can make, is, that a quarter of malt from Scotch bigg ſhould pay $\frac{1}{2}$ of the duty impoſed on a quarter of malt from Engliſh barley, and that a quarter of Scotch barley ſhould pay $\frac{2}{3}$ of the Engliſh duty.

Does malt of an inferior quality, when brewed for malt liquor, yield more or leſs, proportionally, than it does when brewed for the purpoſe of diſtillation; or is it attended with more inconveniences to the brewer; and is it proportionally of more or leſs value to him than to the diſtiller?

Malt of an inferior quality, when brewed for malt liquor, yields proportionally leſs than it can do if properly diluted and brewed for the purpoſe of diſtillation. It is dangerous for the brewer to pour ſo much liquor on malt of an inferior quality as the diſtiller can do, for

fear of endangering the flavour of his liquor. The diſtiller, if he gets a greater quantity of extractive matter, is leſs intereſted about the flavour of his worts, both becauſe they have to undergo a complete attenuation and the ſubſequent proceſs of diſtillation, and alſo becauſe the flavour or quality of his ſpirits depends principally upon ſeparating from them the eſſential and empyreumatic oils when they are diſtilling. But the brewer muſt beware of ſearching too ſeverely the grains of his malt, eſpecially where this is of inferior quality; otherwiſe, he will loſe more by deteriorating the quality of his malt liquor, than he can gain by any addition to the quantity of his extract; and, therefore, high heats and a number of liquors would be deſtructive to the brewer who uſes inferior grain. Nay, in late harveſts and bad ſeaſons, it becomes neceſſary to mix either the malt or the worts of Scotch bigg with thoſe of Engliſh barley, in order to procure a palatable liquor.

Indeed, by the preſent Exciſe laws, which impoſe the whole ſpirit duty on the waſh, the Engliſh diſtiller cannot ſearch his grains ſo thoroughly as the brewer often does: but where a diſtiller is not limited in his operations by a duty on the waſh, he both can and will ſearch the malt in his maſh tun, farther than what it will be prudent for the brewer to attempt, if his grain is of an inferior quality. In conducting my experiments laſt year, I poured ſeven liquors on the malt of Engliſh barley; ſix on that of Scotch barley; five on the malt of beſt Scotch bigg; and four liquors on the two inferior kinds; trying by the ſaccharometer the ſtrength of my worts, till I rendered the grains ſo perfectly inſipid, that my horſes would not eat them. If I had been brewing ale of any kind, I would have ſtopped at five liquors, at moſt, for my Engliſh barley, four for my Scotch, and three for my malt made of bigg. My experiments, therefore, make inferior grain ſomewhat more valuable for the diſtiller than for the brewer; though they ſhew very nearly the comparative values of the different kinds of malt, even for the latter purpoſe.

Have you acceſs to know the effects of the high proportion of the malt-tax on Scotch barley and bigg, in any other part of Scotland except Aberdeenſhire?

Independently of all the private information which I could collect on this ſubject, I have examined both the printed Accounts of May 2d 1804, reſpecting the duties of Exciſe on malt made in Scotland, and alſo the Account preſented to this Committee from the Exciſe of that country on the 11th inſtant—from which I am led to draw the following concluſions:

1. The total quantity of malt made in Scotland for ten years preceding midſummer 1803, amounted to 16,244,197$\frac{1}{10}$ buſhels. But as 1795, 1799, and 1800 were unfruitful ſeaſons, and as both barley and bigg were made into meal in great quantities, and as not quite half of the uſual quantity of malt was uſed in theſe calamitous years, I throw them out of the account when forming an average; and I find that, in the other ſeven years, the quantity of malt made in Scotland amounts

to 13,473,221$\frac{8}{10}$ bushels, and that the yearly average is 1,924,746 bushels.

2. The quantity malted from midsummer 1802, when the first alteration of the ratio of the duty on Scotch malt took place, to midsummer 1803, was nearly $\frac{1}{6}$ part less than the medium of seven years, or 1,644,104$\frac{1}{2}$ bushels. This shewed that the ratio of malt duty on Scotland was already too high, and ought not to have been increased.

3. The quantity of malt made from midsummer 1803 to Christmas following, instead of being nearly one half, or at any rate about two fifths, was only 341,078 bushels. This is not $\frac{1}{7}$ part of the yearly average.

4. The whole malt-tax levied in Scotland from midsummer 1802 to midsummer 1803, amounted to 137,868l. 17s. 3d.—But

The malt-duty, from midsummer to Christmas 1803, only to - - - - - - - - L.	92,422	14	4
And from this is to be deducted the duty on stock in hand - - - - - - - - -	34,808	7	0
So that the whole duty on malt made last half year is only - - - - - - - - -	57,614	7	4
At this rate, the whole malt-tax for a year is	115,228	14	8
This is less than the last years, or 137,868l. 17s. 3d., by - - - - - - - - - L.	22,640	2	11

I acknowledge that the malt made in the summer half year is not above two fifths of the malt made in the whole year; but it is evident, that the high ratio of the malt-tax on the whole of Scotland, joined to the late great addition to that tax, has defeated the object of raising a greater revenue: And I firmly believe, that a tax of 2s. 10$\frac{3}{4}$d. per bushel on malt made from Scotch barley, and of 2s. 2d. on all malt made of bigg, while the duty on malt made in England is 4s. 4d., would produce more clear revenue to Government than a higher ratio of duty. Direct taxes can be levied by compulsion; but indirect taxes, or taxes on consumption, can be carried only to a certain length; and on articles of inferior value, compared to raw materials of a better quality, too high a ratio on the inferior article must always hurt the Revenue.

BRANCH

BRANCH II.

REVIEW OF AGRICULTURAL PUBLICATIONS.

Eſſays Literary, Political and Economical, in Two Volumes, by JOHN GARDINER, M. D. *Fellow of the Royal College of Phyſicians, and of the Royal Society, Edinburgh, &c.* Conſtable & Co. Edinburgh, and T. N. Longman & O. Rees, London. 1803.

DISQUISITIONS, like thoſe now before us, which involve the happineſs and welfare of mankind in an important degree, are generally received in a favourable manner. So numerous, however, have publications of this kind been of late years, that one of two things may reaſonably be expected to follow; either that the people will be ſufficiently enabled to form correct notions upon every point connected with rural and political economy, or they will be ſurfeited with ſuch a laviſhment of advice, eſpecially as it is often beſtowed by thoſe who would not have been the worſe of inſtruction themſelves. Earls and Lords, phyſicians and ſurgeons, have lately ſtepped forward and proffered advice for promoting the internal improvement of the country; in ſhort, all ranks, except the lawyers, have lent their aid to forward ſuch a meritorious and important object. We beg pardon, even an Honourable Judge has condeſcended to throw in his mite, thereby ſhowing the ſenſe he entertained of the value of agriculture to the ſtate.

In making theſe preliminary remarks, we by no means apply any of them to the learned author of theſe volumes; on the contrary, we are in duty bound to declare, that much gratification has been experienced by us in examining his ſentiments on a variety of topics, none of which are undeſerving of notice. If he has not added largely to our original ſtock of information, he has at leaſt conveyed a good deal of pleaſure, by illuſtrating ſome important ſubjects with conciſeneſs and perſpicuity. Upon ſome of them, he perhaps has formed erroneous opinions; but even here criticiſm is in a great meaſure diſarmed by the fairneſs and candour which he conſtantly exhibits. Three fourths of the eſſays being foreign to the deſign of our Magazine, we ſhall confine this review to the ſections which more particularly relate to agricultural concerns.

Theſe ſections are, the 3d, 4th, 5th, 6th, 7th, 8th, 9th, and 10th, of the firſt volume. In examining them, we ſhall ſtate our ſentiments with freedom; and, avoiding every faſtidious remark, will with greater pleaſure beſtow approbation where we think it merited, than convey cenſure, even where opinions appear to be looſely taken up. Some people ſeem to think that a review ſhould contain all the errors of the author, and none of his truths; but our conduct ſhall always be guided by more liberal principles.

The third section is on the progressive improvement of agriculture, and means of its increase to answer the rising demands of the public. At the outset, Dr Gardiner falls into an error, at least his opinion, if acted upon, would effectually retard improvement. He asserts, in substance, that it is the duty of Parliament to keep the prices of provisions low, in order that the wages of labour may be regulated in a similar manner. Now, it occurs to us, and we have long practically experienced the truth of it, that the value of labour is seldom if ever ascertained by the price of provisions, but that the market value of the article is, almost in every case, regulated by the demand for the particular sort of labour that is wanted. People who write upon the price of provisions, should reflect that the value of money is now totally altered, and that a shilling for a peck of meal is a very different thing to the farmer from what it was in former times. His rent is augmented; the value of the labour he employs is, in every case, doubled; and public burdens, formerly almost unknown to him, are now of considerable magnitude. Besides, such should consider that high and low prices are only comparative, and that eighteen pence for a peck of meal is in reality a lower price at this time to the consumer than a shilling was twenty years ago, his relative abilities to pay the price being duly attended to. Why should it be thought that low prices tend to promote national prosperity? If provisions are produced at an increased expence, the manufacturer of them is entitled to an increase of price, otherwise he would be ruined by the trade in which he is concerned. The subject will not bear an argument. Indeed, in a subsequent section, p. 448. Dr Gardiner admits, that 'it is a specious, but false argument, that the price of labour is, in most cases, proportioned to the price of provisions; for in some districts,' says he, 'the price of labour is scarcely sufficient for the maintenance of a family; whilst in some of the manufacturing towns it is too high, to be consistent with the prosperity of our trade.' After this admission, we presume it would be superfluous to say one word more upon the subject.

We are much of Dr Gardiner's opinion concerning the deficiency of British grain, and have more than once declared it to be expedient and necessary to increase the quantity of cultivated land. This, as he very justly observes (p. 412.), can only be accomplished by the division of commons and the culture of waste lands, which, in their present state, are undoubtedly very unproductive. Perhaps, with the condition of these lands, now styled common and waste, Dr Gardiner may in some measure be unacquainted. Many of them are naturally of good quality; and, like old maidens, are only sterile, because they have not been cultivated. We have seen commons in England carrying nothing but gorse and thistles, which were of superior natural value to most of our Scotish infield; and yet, from individual negligence, or, what is worse, from legislative ignorance, they remained in a state disgraceful to the nation, and comparatively of little value to the proprietors and occupiers. So long as separate bills are necessary,

neceſſary, the diviſion of commons will be an uphill taſk; but if a general bill was paſſed, and a modus enacted for tithes, then the proceſs of diviſion would go on with rapidity.

Whether the common and waſte lands are improveable to the extent ſuggeſted by Dr Gardiner, we are not altogether certain; becauſe evidence is wanting to aſcertain their reſpective qualities. We are rather diſpoſed to think that their value is greatly exaggerated by many people, becauſe allowance is ſeldom made for the produce expended in working and feeding them, which for ſeveral years, under the beſt management, would at leaſt conſume one half thereof. It is evident, however, after every neceſſary deduction was made, that if one million of acres of theſe lands were brought into perfect cultivation, the preſent deficiency of home produce would be made up, whilſt the remainder might be improved according to circumſtances, or to the future demand of the market, which of courſe muſt always be regulated by the proſperity of the country. As population was augmented or luxury increaſed, a freſh extenſion would be neceſſary; and that this would take place from motives of private intereſt, till the whole iſland was improved, need not be doubted, provided legal obſtructions were removed.

In the fourth ſection, the bad effects of entails in a mercantile country are noticed. We extract two paragraphs, which will ſhow Dr Gardiner's ſentiments on this important queſtion.

'Indeed, I have always thought, that entails were contrary to the ſpirit of our conſtitution, and to the genius of a mercantile nation, where as little obſtruction ought to be given to the transference of land, as to that of any other property. The prohibitions that are given by entails to the ſale of lands, are, in ſeveral ways, detrimental to commerce, and obſtruct the proſperity of the country. How often does it happen, that creditors, by the deed of entail, are defrauded of their juſt debts! Theſe ſometimes amount nearly to the value of the eſtate; and, in ſome caſes, I have known them exceed it. From this circumſtance alone, entails appear to be a privilege, granted by law to rich individuals, to perpetuate their family and name at the expence of the public. This favours more of the aſſumed power of the ancient ariſtocracy, than of our preſent free conſtitution, in which we boaſt, that all are on an equality in reſpect to the laws.

'Theſe ſtrong objections to the practice of locking up lands by entails, and thereby preventing them from being transferred with the ſame eaſe and ſecurity to the purchaſer, as every other ſpecies of property, have long made me ardently wiſh for a repeal of the act of 1685. This act, undoubtedly, has been rendered leſs exceptionable, by the 10th of George III. c. 51, for encouraging the improvement of lands in Scotland held under ſettlements of ſtrict entail. But as they are ſtill unalienable, the moſt material objections to this ſpecies of tenure continue to exiſt, to the diminution of the wealth and proſperity of the country. Even truſt-deeds, carried to their utmoſt extent, as they often are in England, have all the bad effects of entails. Perhaps, no truſt deed, directing or limiting the ſucceſſion of heirs to a landed eſtate,

estate, should be effectual beyond the life of the heirs in existence at the time.' Vol. I. p. 432-433.

We perfectly concur with Dr Gardiner, that thirlage, as a perpetual servitude, ought to be abolished, due regard being paid to the rights of those concerned. The concluding passage of the section on this subject, shows that the author entertains a correct opinion concerning a just commutation for thirlage, and that his sentiments are different from those expressed by the Rosshire Juries, as mentioned in the Supplement to last volume, and First Number of the present one. He says, 'It is not twenty or twenty-five years purchase *of the whole profits* arising from the employment of the mill that ought to be given, but only what might be fully estimated as an advantage which the proprietor of the dominant mill *has in the insucken, above that of the outsucken multures.*'

Dr Gardiner is hostile to a bounty upon the exportation of grain; and we must acknowledge that our sentiments are very much in unison with those he expresses. But there is no occasion to discuss this point; for in the present state of British husbandry, when opposed to the national consumpt, we have no grain to export, consequently the question concerning bounty may remain in abeyance. We think the Doctor's discernment has, however, been asleep, when he asserts, that 'our farmers have nothing to fear from the freest importation;' because we are satisfied that, unless protecting duties were interposed, the home cultivator would be constantly undersold in his own natural market. What does it signify that the author of the Corn Tracts, published in 1765, calculated that the average quantity of grain annually imported amounted only to 23,728 quarters, since we are fully assured that the tables are now altogether reversed. From the account of grain imported into Scotland *only*, given in the Appendix, it appears that, during the twelve years, viz. from 1790 to 1801, a quantity not less than 240,000 quarters was, upon an average, imported annually. This, we presume, overturns all the previous reasoning, and renders an additional argument altogether unnecessary.

The flourishing state of the British distillery, and its importance to the state, are described in the seventh section; but, notwithstanding the demand thereby occasioned upon the farmer for barley, it must excite surprise, that this grain has been the most unvendible of all for several years past. We are not clear whether the quantity of barley malted is greater, or even as much as it was a hundred years ago; though rather inclined to think it is less, as may be ascertained by a reference to the amount of the original malt duty. We have no objection that ardent spirits should be taxed as high as Government pleases; but certainly consider it as impolitic to subject malt to such a tax as is now presently imposed. Ale may be reckoned as one of the necessaries of life; therefore the British brewery deserves every manner of encouragement, so as the public may be provided with a safe and comfortable beverage.

Upon the tithe question, Dr Gardiner entertains sentiments which some people will regard as heterodox; though we must confess that they

they are nearly allied to those we have always maintained since the merits of the question were investigated by us. He is friendly to a *modus*, or compensation in lieu of tithe, and supports his opinion by several very judicious arguments. It gives us pleasure to observe, that the plan for commuting or changing tithe for a proportion of rent, given in our Thirteenth Number, meets with his unqualified approbation. The Doctor's sentiments on the general question will however be more correctly comprehended from the following extract.

'Notwithstanding what I have said, in the preceding pages, on the division and improvement of the commons and waste lands of this country, certain difficulties, which obstruct the progress of this desireable end, still remain to be considered. Among these are the church tithe, and poor's rates, in England; which, in many instances, affect the proprietors and farmers to such a degree, as to banish almost all inclination to considerable improvements, from a dislike to share their profits with those who bear no part of the expence. The tithe is frequently a very unequal tax upon the rent, and is always a great discouragement, both to improvements by the landlord, and cultivation by the farmer. It is a real land-tax, making part of the revenue of the clergy; is a heavy burthen on the proprietors of land; but is felt more severely by the tenants; and is higher than even the land-tax formerly paid in to the treasury for the exigencies of the State. The proprietor cannot venture to make the most important, which are commonly the most expensive improvements, nor the tenant to raise the most valuable, which are likewise, in general, the most expensive crops, when the Church, which lays out no part of the expence, is to share so largely in the produce.

'So heavy a tax on the fruits of the earth, must necessarily have some effect in lessening their production, in heightening the price of provisions, and in restraining the population of the country, which will always correspond with the quantity of food produced. How to obviate these inconveniences, arising from so burthensome a tax on produce, and which operate, with so decisive an effect, in obstructing all expensive and important improvements of farms, is a question of most difficult solution. This difficulty arises, not so much from any impossibility of forming a plan of accommodation between the proprietors of land, the clergy, and the lay impropropriators *, by which the effects of the tithe, complained of, might be taken away, but in so adjusting the scheme to their several interests, as to give mutual satisfaction.

'Where there is no modus established, it is an opposition of interest between the clergyman and the farmer, which occasions so many altercations, and sometimes lawsuits, on account of the tithe in kind, or its valuation in money. Were these persons intent on strict justice to each other, no dispute could take place; but the clergyman, perhaps from

* The tithe of these last are supposed to extend to nearly a fourth part of the lands of England.

from miſinformation of the value of the crop, may ſometimes have the appearance of inſiſting for more than is right; while the farmer, from a diſlike to all kind of taxation, is tempted to withhold from the clergyman what is his due by law *. Such diſſenſions are followed by the worſt conſequences to the farmer and his family; for they cannot receive, with a juſt ſenſe of their propriety, the principles of piety and morality, how forcibly ſoever they may be delivered, by a parſon whom they neither reverence nor eſteem. This is an additional reaſon for a modus, of more importance to the happineſs of the people, than even the farther improvements of our lands, ſo warmly recommended in almoſt every part of this treatiſe. What a happineſs, therefore, would it be to the proprietors of land, to the farmers, and to the country in general, could ſome equitable, and leſs exceptionable method, than the preſent mode of levying the tithe, be adopted!' Vol. I. p. 483-487.

To provide for the deſtitute poor, has been an important object with every well-regulated government; but few have fallen upon the happy medium of enacting laws which adminiſtered ſalutary relief, without ſapping the foundations of induſtry and morality. Perhaps the object is nearer attained to in Scotland than in any country whatever; whereas in our fifter country, the burden of ſupporting the poor is on all hands acknowledged to be an intolerable grievance. The ſyſtem adopted there is radically bad; though it would be a herculean taſk to reform it altogether. A gradual modification of the evil is however very practicable; and the firſt ſtep of amendment is, to place the management of the funds of each pariſh in the hands of thoſe from whom they are levied.

Dr Gardiner's ſentiments may be gathered from the two following paragraphs, p. 522. *et ſeq.*

'The poor's rates in England, from the end of the ſixteenth century, have been gradually increaſing with the wealth and population of that country, till they have become at laſt, in many pariſhes, a heavy burthen

* Mr Arthur Young, who deſerves well of the public, for his laborious and expenſive tours through France and Italy, for the improvement of agriculture, obſerves, 'That in regard to the oppreſſions of the clergy, as to tithes, I muſt do that body a juſtice, to which a claim cannot be laid in England. Though the Eccleſiaſtical tenth was levied in France more ſeverely than uſual in Italy, yet it was never exacted with ſuch horrid greedineſs, as is at preſent the diſgrace of England. When taken in kind, no ſuch thing was known in any part of France, where I made inquiries, as a tenth; it was always a twelfth, or a thirteenth, or even a twentieth of the produce; and in no part of the kingdom did a new article of culture pay any thing. Thus, turnips, cabbages, clover, chicoree, potatoes, &c. &c. paid nothing. Olives, in ſome places, paid; in more, they did not. Cows, nothing. Lambs, from the 12th to the 21ſt. Wool, nothing. Such mildneſs, in the levy of this odious tax, is abſolutely unknown in England.' *Vol. I. p. 537. Lond.* 1792.——This accurate obſerver, in another part of his tour, previous to the French Revolution, ſays, 'All I converſed with in Italy, on the ſubject of tithes, expreſſed amazement at the tithe we are ſubject to, and ſcarcely believed that there was a people left in Europe, who paid ſo much; obſerving, that nothing like it was to be found, even in Spain itſelf.' *Vol. II. p. 275 of the Tour.*

burthen on the induſtrious; of which they loudly and juſtly complain. By the 39th and 43d of Elizabeth (the baſis of many ſucceeding acts relative to a proviſion for the poor), the churchwardens of each pariſh, with the concurrence of a Juſtice of Peace, acquired a diſcretionary power of impoſing and levying a tax on the inhabitants, according to the number and indigence of their poor. At the time when theſe acts paſſed, the diſcretionary power mentioned was probably neceſſary; and, according to the law as it now exiſts, and the preſent plan of levying the poor's rates, it is perhaps ſtill unavoidable. But it ſeems to me unreaſonable, even dangerous to the community, that a tax ſhould be laid on, at the arbitrary will of any two or three churchwardens or overſeers. The aſſeſſment ought, by act of Parliament, to be limited to a moderate rate in the pound, whatever may be the neceſſities of the poor. And when this ſhall be found inſufficient, the deficiency ought to be made up by a voluntary contribution from the opulent inhabitants. It is by a plan of this kind alone, that the moſt induſtrious part of the community can be relieved from the preſent oppreſſive burthen of the poor's rates; and I am confident, from the inſtinctive deſire in man to relieve the diſtreſſed, it will fully anſwer every purpoſe intended. This will obviate, in a great degree, that exceſs of charity, ſo hurtful to ſociety, and even ſo baneful to the indolent and ſlothful among the lower ranks, who ſo often throw themſelves unneceſſarily, from a diſlike to labour, on the charity of the public. For it is well known, that the poor's rates of many pariſhes in England have gradually augmented to double of what they were forty years ago; and from this too great liberality, the number of poor has proportionably increaſed; of which it is unneceſſary to cite particular inſtances.

'It has been often remarked, that many of the mechanics, porters, and other hard-working men in England, who have worn themſelves out by labour and intemperance, pay no regard to futurity, and neglect their offſpring, becauſe of the comfortable retreat on which they can rely, when they ſhall come to throw themſelves and their children on the charity of the pariſh. It is the too liberal proviſion made for the poor in England, the facility with which it is obtained, and the arbitrary manner in which the ſubject is taxed for their maintenance, that are the chief cauſes of the exorbitancy of the poor's rates, and the increaſing number of beggars. If the diſſipated journeymen of manufacturers, and other men of labour in great towns, who are accuſtomed to receive large wages, but ſpend them, to the laſt ſhilling, in waſte, are in the ſmalleſt degree diſabled, or even weary of work, they affect inability for labour, and are put on the poor's roll. This I underſtand they accompliſh, by an application to a Juſtice of Peace, from whom they procure an order on the churchwardens, in conſequence of which they receive nearly as comfortable a proviſion in a work-houſe, or by a weekly penſion, as men in the country of Scotland can earn by hard labour. To ſupply the indigent with food and raiment, provided you thereby do not offer a premium to indolence, prodigality,

prodigality, and vice, is salutary. To correct the lazy and the spendthrift, to shut them up in houses of confinement, till they have acquired habits of industry, is just and prudent; but in such establishments, to feed, to clothe, and to lodge them better than the sober and diligent are clothed, fed, and lodged, is not agreeable to any principle of equity, and is inconsistent with sound policy. On account, therefore, of the bad effects to the public, of an excess of benevolence, it ought to be a general rule, as formerly suggested, that every out-pension to a pauper, or his maintenance in a work-house, ought to be something below what the meanest workman can earn by his labour.' Vol. I. p. 522-526.

We agree with Dr Gardiner, that it is impracticable to prevent common begging; therefore think those who are permitted to beg should be under some such regulations as he recommends. The account which he gives of the Royal Society of Mendicants (Blue-gowns) in Scotland, is curious and interesting.

The section concerning the utility of foundling hospitals, contains many useful remarks; but being rather unconnected with rural matters, we shall restrict ourselves to a single observation upon it. Foundling hospitals, in one point of view, are beneficial to society, by affording a receptacle wherein destitute infants may be reared up and trained to useful purposes; but, at the same time, as they also afford encouragement to immorality, and are seldom managed in a way that proves conducive to the purposes for which they are established, we are not sure but that the benefits thereby gained are much more than counterbalanced by the accompanying evils.

The last section is on the population of Britain at different periods. Dr Gardiner thinks that, at the invasion of Julius Cæsar, the number of inhabitants did not exceed 850,000 of all ages; which number augmented during the government of the Romans to nearly three millions. At the death of Alfred in 900, he estimates that population, from various causes, had declined one third; and that even at the Conquest the number was not much augmented. During the reign of the Tudors, when less foreign war and fewer internal dissensions prevailed than in former periods, and when much attention was paid to agriculture and manufactures, he computes the population to have more than doubled From the return of the Bishops in 1676, it was then reckoned at six millions in England. The authentic returns lately made under the authority of the Legislature, however, prove, in the most satisfactory manner, that the number of inhabitants in Britain had rapidly increased during the eighteenth century. Indeed any person, who merely looked an inch before his nose, might have been satisfied of the truth of this circumstance without an actual enumeration. Agriculture was executed in a much more perfect style than formerly; manufactures had increased in an astonishing degree; canals, roads, and other internal improvements were making in every quarter; and how could these things have happened, unless population had increased? It was impossible; and such a train of argument we always pursued before the

the fact was precisely ascertained, because no other could then be resorted to. It is unnecessary to investigate, here, which was cause, which was effect; whether the superior attention displayed about internal improvement, and the increase of trade and manufactures, produced an augmentation of population, or whether the augmentation occasioned internal improvement and increased trade. The fact is, they generally go hand in hand. Population will never be wanting in a prosperous state. It may prevail under adverse circumstances, but cannot be wanting under a well-regulated government, where food and employment are abundantly provided. Were every obstacle to internal improvement removed, we have no doubt but that the British isles are capable of supporting double the number of inhabitants which are presently collected within their bounds; nay more, we are convinced that an increase will regularly go forward, though with slower steps, in spite of every obstacle, so long as the trade and manufactures of the country continue to flourish. N.

Letter addressed to the Commissioners of Supply for the County of Haddington. By Robert Hunter *of Thurston, Esq. Edinburgh, printed by* C. Stewart. 1804.

This pamphlet contains a concise, and, so far as we know, a correct account of the squabbles which lately happened among the Commissioners for executing the Property-act in the county of Haddington. Wishing to avoid every thing of a personal nature, we must refer our readers to the pamphlet itself, which cannot fail to afford much amusement. While the main part of this curious publication is thus passed over, we are in duty bound to notice the causes from which those dissensions seem to have originated.

It appears that the Commissioners of the county of Haddington, at an early period, entertained different views respecting the extent of the Property-act, and that some of them wished to exercise their powers in a more lenient way than met with the approbation of the majority. That the act itself was read by them in different ways will not excite surprise, seeing that the clauses relative to the tenants' duty are in direct opposition to the principle of the act as expressed in the preamble. So far as we can make out, the minority were disposed to execute the act according to its spirit, in other words, to assess the occupiers of land upon the same principles as they assessed proprietors and others; whereas the majority were resolved to walk by the letter of the act, that is, to assess the tenantry in the full sum of sixpence upon every twenty shillings of rent, and to value each farm afresh which had been occupied for more than seven years. The majority also refused to allow the deduction of one eighth from rent, though that deduction is clearly warranted; and, in short, were determined to administer the act with the utmost severity. We believe this statement will convey a pretty accurate picture of the views of both parties.

That

That the minority were in the right, we suppose few people will doubt, who have taken the trouble to bestow suitable attention upon the act in all its bearings and branches. Indeed, the recent proceedings of the Commissioners in a great measure prove, that their original conduct was radically wrong. They have now allowed the deduction of one eighth, which was at first obstinately refused. They have reduced a number of valuations upon the *ex parte* representation of the occupiers; and latterly, in every instance, have acted with much moderation and wisdom. The county of Haddington will now be generally assessed upon the same principles as are adopted in other districts, though we are free to say that the tax will fall much heavier upon the tenantry all over the island, under every limitation, than it does upon other classes.

Having thus given our opinion concerning the line of conduct adopted by the two parties into which the Commissioners were divided, we come now to notice a passage of the pamphlet, which at once displays the principles which guided the majority.

In p. 4. Mr Hunter says—

'It must appear evident to you, that almost the whole property of this county consists in land, and that, of course, the landlords' and tenants' taxes afford the great source from which the revenue to be raised by this tax must be drawn. There is little trade, and no manufactures of any consequence, carried on in this county. If, then, the Commissioners should overlook this most necessary, though most troublesome part of their duty, 'the obtaining a fair and just valuation of all the farms that have been let and entered to previous to the last seven years,' they would be highly culpable, and deserve severe reprehension, as well for their neglect of the public interest, as for allowing those farmers who are in possession of old and beneficial leases to be exempted from paying their fair and just proportion of this tax. Nothing can be more just than placing them upon the same footing with those farmers who have entered to their leases within the last seven years, and are paying a rent adequate to the present value of their farms.'

That land was the great source from which the revenue, to be raised by the Property Act, was to be drawn in such a county as Haddington, is incontestibly true. In the case of proprietors the duty was easily ascertained; they were to pay one shilling out of every twenty received, so of course no mistake could arise, or oppression be committed upon them; because, if rents were not received, proprietors were in no respect liable, unless for such lands, &c. as remained in their natural possession. In the case of occupiers, no such distinctions or bounds are marked out; and the general rule, when applied to them, is vague, uncertain, and unequal. Even as it is, the rule is in direct opposition to the principle of the bill, which expressly declares, that the tax was to be a five *per cent.* one. This point, we are not however now to argue, though we would ask Mr Hunter, the intelligent author of this letter, if he had granted a lease, the rent of which was specified to be two hundred pounds *per annum*, payable at two terms, and that the writer had

had fallen into a miſtake by declaring that each term's rent was one hundred and fifty pounds. We aſk, Would ſuch a miſtake make the tenant liable to a greater rent than what was firſt expreſſed? Preciſely ſimilar is the queſtion reſpecting the property-tax with regard to the occupiers of land. The act firſt declares, that a duty of one ſhilling out of every twenty of gains and profits ſhall be paid by all perſons enjoying ſuch and ſuch incomes: but, when this rule is applied to the occupiers of land, the principle is deviated from; for, if rents only are to be aſſeſſed, a tenant is liable, whether gains or profits are enjoyed by him or not. If the act is referred to, it is equally fair to take the part that is for you, as the part that is againſt you; nay more, as the preamble of every bill is always underſtood to contain its object or principle, every after clauſe that is in oppoſition thereto may be ſafely conſidered as nugatory and inapplicable.

But leaving this general argument, and allowing that occupiers are bound to pay ſixpence per pound upon current rents, where leaſes have not been poſſeſſed for more than ſeven years, we would inquire, how, and in what manner, valuations are to be made upon thoſe who occupy land where the tenure is of a different deſcription. Suppoſe the occupier to poſſeſs upon a liferent, conſequently in a ſituation which diſables him in ſome degree from making improvements, is it fair, or is it juſt, to value land ſo occupied, upon the ſame terms as when ſet for nineteen or twenty-one years, and to levy not only ſixpence in the pound upon the whole as the tenant's tax, but alſo the proprietor's tax of one ſhilling per pound upon the increaſed rent which the ſaid land might afford if poſſeſſed under different circumſtances? We ſay, ſuch a procedure is nothing ſhort of groſs injuſtice, and cannot be defended by a ſingle enactment in the property-tax bill. Upon the mode and extent of the valuation, the bill is ſilent; it merely declares that a fair and juſt valuation ſhall be made, but does not ſay for one year or for any preciſe number of years. Our opinion has always been, that the phraſe means *a fair and juſt valuation for the year under which the tax is aſſeſſed;* or, at the very moſt, for the number of years which remain of the leaſe, all the circumſtances and burthens under which the poſſeſſion is held being conſidered.

Even under the ſuppoſition that farms, poſſeſſed for more than ſeven years, ought to be eſtimated at the greateſt worth they could pay under the moſt active management (for the conduct of the commiſſioners has been ſuch as to admit of the utmoſt latitude of ſuppoſition); ſtill, what ſhall be ſaid concerning the mode adopted by them in making valuations? Did they perſonally examine the lands ſo valued? No. Did they take an opinion from perſons of ſkill and capacity? No. Did they even call in the ſchoolmaſters of the reſpective pariſhes to their aid? No; though ſuch, from local information, were certainly better qualified to make correct valuations than the commiſſioners themſelves. What did they do then to aſcertain the value of land poſſeſſed upon leaſes whereof ſeven years had run? Why, they even quietly ſat in their official chairs by a warm fireſide, and, without information or advice, rated every farm, not according to its quality or condition, but accord-

ing to the place it occupied in the map of the county, and to the number of acres therein contained.

We will not ſtop to inquire whether this was diſcharging the duties of their office in a manner conſiſtent with the oaths they had taken; nor whether the commiſſioners were gifted with intuitive knowledge to value land which they had never ſeen. We may however ſtate the conſequences of their official errors—A greater number of appeals than in any other diſtrict; an immenſe deal of trouble to individuals; and a general ſpirit of diſſatisfaction excited over the whole diſtrict, not ſo much againſt the tax as againſt thoſe appointed to carry it into effect.

Thus we have examined the proceedings of the Haddington commiſſioners in the execution of the Property Act, and have been induced to exceed the preciſe limits of the letter before us; becauſe, that county being a leading agricultural one, if the meaſures at firſt adopted there had been received *ſub ſilentio*, a burden, and one not intended by the legiſlature, might have been laid upon the tenantry of Scotland. We repeat, that the minority of the commiſſioners ſeem to have underſtood the act moſt correctly; and when we give this opinion, every perſon acquainted with the footing on which we have ſtood for many years with the honourable Baron who headed the minority, will be ſatisfied that neither partiality nor prejudice have influenced us in his favour upon this occaſion.

Since the above went to preſs, ſome particulars have been communicated, which incline us to believe that the diſputes among the Commiſſioners have not been ſo correctly ſtated by Mr H. as we were at firſt led to imagine. '*Audi alteram partem*,' is an excellent adage; therefore, the ſubſtance of our recent information ſhall be given.

When the county met upon the 20th September 1803, to nominate Commiſſioners for executing the property act, the convener opened the meeting with a ſpeech, wherein he ſtated, That the act would require much diſcretion in the execution, particularly that branch of it which related to farmers poſſeſſing leaſes whereof more than ſeven years had expired: That if the ſtrict letter of the clauſe which applied to them was taken, without connecting it with the ſpirit and meaning of the act, a tax of 40 or even of 50 per cent. would be levied upon many people, ſo circumſtanced, inſtead of levying ſeven and one half per cent. upon the actual ſurplus profits truly acquired by the holders of ſuch leaſes: That though the words, '*the juſt and full value of theſe lands would let for if out of leaſe*,' if taken *per ſe*, might warrant a tax of the firſt deſcription, yet, as many honeſt men held old leaſes, and gathered little more than bread from them, while others under ſimilar circumſtances were making conſiderable profits, it would be altogether improper to put ſuch an interpretation upon the clauſe in queſtion, eſpecially as it could not be ſupported by the general ſpirit or principle of the act itſelf: That *profits* meant *a fact*, not an imagination; therefore, the queſtion to be inveſtigated and determined by the Commiſſioners was, what profits

profits were truly and actually made, so as these and these only might be taxed, and not imaginary profits, which were never realized.

After this introductory speech, we understand that Baron Hepburn was first named as a Commissioner, but made some difficulty of accepting, on account of his official duties, which necessarily called him to be often absent. He was then requested to allow his name to remain, although he should only attend two or three meetings: so the difficulty was overcome. All this passed at the public table; and we see from the Appendix to Mr H.'s letter, that Baron H. actually did attend the first meetings. Whether the majority of the Commissioners thought from the beginning with Mr H., is a matter of little importance; but we understand that Baron H. considered them to be of his opinion during the days he attended. Upon this point, however, we will not pretend to decide, though it seems clear, that if a strong opposition had not appeared, the act would have been executed according to the way in which it was explained by Mr Hunter. In giving this opinion, we lay no blame either upon him, or those gentlemen who entered into his views, being satisfied that they had no other object but to discharge a public duty with uprightness and integrity. The act itself is so confused and intricate, that persons with equal good intentions differed about its meaning. Even the light recently thrown upon it has in a great measure arisen from the collision of argument, and did not beam all at once upon some people, who now appear to be best informed. N.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Cursory Observations on LORD LAUDERDALE'S *Inquiry into the Nature and Origin of Public Wealth.*

SIR,

I HAVE always been disposed to consider political, economical, and statistical calculations as founded on vague, uncertain, and assumed data; consequently, as tending to produce false conclusions, and egregiously to mislead those who may found upon them, either in conducting the great affairs of the community, or the private concerns of individuals. This idea has at present been more particularly enforced upon my mind by Appendix No. XIV. to Lord Lauderdale's Inquiry into the Nature and Origin of Public Wealth; respecting a part of which Appendix I beg leave to offer some observations, to the Noble author and the public, through your highly useful and widely-diffused periodical work.

You will please observe, that I mean not to enter upon any discussion of the great topics so ably handled in the above mentioned publication, which I have read with great pleasure, and I hope with some improvement: That task I leave to more competent judges. All I intend to take notice of in this communication is, the total inaccuracy of the statements made by Mr James Donaldson respecting the produce and expences of farming in the Carse of Gowrie. From the great name and high abilities of the Earl of Lauderdale, inconsiderate readers might

be induced to suppose that these statements, calculations and results were stamped by his authority as authentic. It is perfectly evident, however, that the Noble author only makes use of them, generally, to shew the superior advantages, both to individuals and the public, of agriculture carried on by intelligent men of capital, upon a scale of some magnitude, as contrasted with the misery and unproductiveness of the wretched agricultural system in a large portion of France under the Metayers.

The Earl of Lauderdale will excuse a plain country man for two slight observations. By a typographical error, his Appendix No. XIV. is made to refer to p. 269. of the body of his work; whereas the reference ought to have been to p. 342. And in the translation of a French letter in the same Appendix, *joncs-marins* is rendered sea-rushes; whereas furze, gorse, or whins, is the real meaning. I am not quite sure that brushwood is a proper translation of *brands*; which I believe means *copse*, or wood fit for making into charcoal.

Mr James Donaldson, as quoted by Lord Lauderdale (for I have not seen his own publication), estimates the Carse of Gowrie to contain 30,000 acres of arable land, and the total produce thereof at 132,817l. 13s. 8d. a year, upon an average of crops and prices. He also estimates the average rent of the Carse at thirty-five shillings an English acre yearly.

He gives a particular statement of the expences attending the cultivation of a farm of 272 acres during six years; by which it appears, on the average, to cost 2l. 8s. 4d. annually per acre for charges of every kind, independent of rent, taxes, interest of money for stock, or maintenance of the farmer and his family.

Combining all his data together, and supplying some very material omissions (for I contend that such calculations upon hypothesis never can be accurate), I have endeavoured to reduce the whole into an account-current, that we may form some judgement of the general result.

Carse of Gowrie Agriculture	*Dr.*		
To rent of 30,000 acres, at 35s. per acre -	L. 52,500	0	0
— Property Tax on the farmer at 6d. per pound Sterling - - - -	1,337	10	0
— expence of management, at 48s. 4d. per acre	73,000	0	0
— parochial and district taxes, not less than property tax	1,337	10	0
— assessed taxes, at 10l. each farm, and these estimated at 150 farms - - - - -	1,500	0	0
— maintenance of 150 farmers' families, at 100l. each, including clothing and education - -	15,000	0	0
— interest of stock on 150 farms, at 1500l. each, allowing 15 *per cent.* for interest, insurance, and profit—225,000l. capital in whole - -	33,750	0	0

Contra	*Cr.*				
By total annual produce -	L. 132,817	13	8		
By balance, being actual yearly loss	45,607	6	4		
	L. 178,425	0	0	L. 178,425	0	0

Thus

Thus it diſtinctly appears, from the aſſumptions of Mr James Donaldſon, that the farmers of the Carſe of Gowrie, collectively, muſt incur an annual average loſs of 45,607l. 6s. 4d. Or, taking them individually, that each farmer of 200 acres of that fertile diſtrict, paying 350l. a year of rent, muſt ſuffer an average yearly loſs of about 304l. Hence, this ſyſtem, were it poſſible, muſt be infinitely worſe than that of the French Metayers; who, having nothing originally to loſe, can never become worſe by the worſt of years; whereas the Carſe farmers of reſpectable capital muſt, in a very few years of average produce, be reduced from competent affluence to total bankruptcy and beggarly poverty.

Nothing would be eaſier than to conſtruct a new ſet of tabular calculations for the Carſe of Gowrie, upon equally vague and hypothetical data, to prove that the farmers of that diſtrict gain as much money annually, or even five times more, if you pleaſe, as they evidently loſe upon the aſſumptions of Mr James Donaldſon. But that is neither my object nor inclination: I am perfectly ſatisfied the Carſe farmers poſſeſs too much good ſenſe, to employ their talents and capitals in ruinous ſpeculations, though I do not pretend to calculate what are their actual gains. Some eſtimate muſt be formed by every man who means to take a farm; but ſuch an eſtimate muſt be directed by local inveſtigation of numerous circumſtances. One obvious defect appears on the eſtimate by Mr. James Donaldſon of the produce of the Carſe of Gowrie: Neither beef, mutton, veal, lamb, pork, wool, butter or cheeſe, enter into his average produce of one of the moſt fertile diſtricts in our iſland.

I have fulfilled my views, of proving, in this inſtance at leaſt, the fallacy of ſuch calculations. The failure of the gigantic Income Tax, which is now revived with *refreſhed* ſtrength under the name of Property Tax, and the produce of which fell nearly a half ſhort of its eſtimate by the great financier PITT, is an inſtance, on a grander ſcale, of the abſolute uncertainty of all ſuch ſpeculations. It is well for the farmers and proprietors in Gowrie, that their rents and profits are fixed on firmer foundations than the eſtimates of Mr James Donaldſon; and for our country, that its revenue and defence did not neceſſarily depend upon the accuracy with which the productiveneſs of the Income Tax was eſtimated by Mr Pitt.

DOMINE.

BRANCH III.

Agricultural Intelligence.

The ſpring quarter, ſo unpropitious to ſeed-work, was followed by a month of genial weather, ſeldom rivalled in this iſland; which enabled the wheats to tiller and flouriſh; puſhed on the paſtures and young clovers with great rapidity, where plants were not wanting; and vegetated all the ſpring-ſown grains in a much more complete way than could have been expected, conſidering the ſituation of the ground and the ſtate of the weather when they were depoſited. Even the months of June and July, on the whole, proved favourable to rural proſperity. The fulleſt opportunity was given for dreſſing the turnip fields and naked fallows; and though drought has operated with ſeverity in ſeveral diſtricts, and ſtunted the crops, yet, taking the quarter upon the great ſcale, it muſt be pronounced a favourable one to the huſbandman.

Markets for grain, as generally expected, have advanced conſiderably of late, though, as uſual, the market of the metropolis remained longeſt in an equable ſtate. Importations from abroad, chiefly of wheat and oats, have at the ſame time gone regularly forward; which ſubſtantiates, in the moſt ſatisfactory way, the doctrine uniformly maintained in this work reſpecting the dependence which Britain, under exiſting circumſtances, muſt have upon foreign countries for a ſupply of corn. The crop of 1803, ſtrictly ſpeaking, was by no means a ſhort one, or below a fair average; and yet the produce thereof has been found unable to ſupply our wants. What does this inculcate? It inculcates, in the ſtrongeſt manner, that an increaſed attention to home agriculture is neceſſary, that the people may be fed independent of foreign ſupply, which, at the beſt, muſt neceſſarily turn out a loſing trade. This increaſed attention is now ſhewn by the Legiſlature, in changing the rates at which foreign importations can be made duty free; which, undoubtedly, to a certain extent, will give ſupport to home agriculture. More, however, muſt be done, before ſubſtantial and permanent encouragement is enjoyed. The legal obſtacles which retard the cultivation of common and waſte lands muſt be removed; becauſe in them the moſt effectual reſource for ſupplying the exiſting deficiency is only to be obtained. If a ſyſtem was adopted which allowed the old arable land to be thrown into graſs, and permitted the paſtures to be opened, as often recommended in this publication, then full ſupplies might be procured upon reaſonable terms. The mode of living now practiſed in Britain calls for a more abundant ſupply of every article. Laying the increaſed population altogether aſide, we may fairly ſuppoſe that the increaſed conſumpt of wheat as bread food, and of oats for ſupporting horſes, requires, at leaſt, one fourth more cultivated land than was neceſſary a century ago. If we add to this the increaſed demand for butcher meat, which of courſe leſſens the breadth of cultivated

vated land, it will not give ſurpriſe when the change, which has been progreſſively going on in our corn trade, is diſcovered. If agriculture had not been executed upon more correct principles than formerly, it is plain that a great part of the people would either have been ſtarved at home, or forced to emigrate to other countries.

An enemy appeared on the turnip fields this ſeaſon, whoſe preſence has not been recogniſed for nineteen or twenty years. This was a black worm or caterpillar, about one inch in length, that ravaged the fields with ſuch uncommon rapidity, as for ſeveral days to render it a problematical point in many diſtricts, whether a ſingle turnip would remain undeſtroyed. If the progreſs of this inſect was rapid and unexpected, its departure was equally ſo; and though much damage has been ſuſtained, yet we believe that a good deal of the loſs proceeded from the delay thereby occaſioned in the cleaning proceſs, many people judging it unneceſſary to thin or hoe a crop, which, in their opinion, could not be ſaved from theſe hoſtile invaders.

A conſiderable declenſion in the value of lean ſtock, both cattle and ſheep, but chiefly of the latter, has taken place this year, though fat ſtill maintains a good price, or rather is more in uniſon with the price of lean ſtock than in the former year. Still, after all, the produce of graſs and eſculent roots is infinitely higher priced than that of corn fields. In former times, a pound of beef rarely ſold for more than the value of two pounds of bread; but now the former is triple the price of the latter, and lately the difference was conſiderably greater. If we take into account the increaſed value of labour, little of which falls either upon the breeding or the feeding farmer, and the public burdens affecting the corn farmer, (inſtance, the horſe-tax), it muſt be acknowledged that a greater incentive is held out to lay land into graſs, than to cultivate it with the plough. After all, it appears that the quantity of graſs land, at leaſt what is uſed in feeding, is unequal to the demand, otherwiſe the value of produce would diminiſh. Whenever there is an overplus, the diſeaſe will inſtantly work its own cure, mankind being remarkably ſharp-ſighted in the aſcertainment of ſuch matters.

We have already alluded to the encouragement beſtowed by the Legiſlature upon home agriculture, in raiſing the prices at which corn can be imported at a nominal duty from foreign countries; which, if our principles are correct, will raiſe the price of corn at home in a proportionable manner. In the firſt Branch of this Number, a copy of the Report made to the Houſe of Commons by the Committee appointed to inveſtigate the buſineſs, is given, together with the ſchedules, agreeable to which the bounty upon export, and the duties upon import, are to be regulated. We underſtand that ſome alterations have been made in theſe ſchedules, the preciſe extent of which we are not ſufficiently informed of to ſtate correctly at this time. If the bill has received the Royal aſſent, and is communicated to us before the concluding part of this Number goes to preſs, we ſhall preſent the ſubſtance of it to our readers in a poſtſcript; other-

wife it ſhall be fully given in the ſucceeding Number. At this time, we may only ſay that the bill is founded in juſtice, being calculated to prevent foreigners, who are not ſubjected to our burdens, from interfering in the home market of Britain, when prices are below the rates at which Britiſh huſbandmen can be reckoned able to cultivate grain. So far the bill will operate as a temporary remedy, but ſtill it cannot be conſidered as an effectual one; for as rent, labour and taxes increaſe, or, what is the ſame thing, as the value of money diminiſhes, ſo ought the importation rates to be raiſed in a proportionable manner. We have ſeen a ſtatement laid before the corn Committee, which demonſtrates that every Linlithgow boll of grain, diſpoſed of by the farmer at this time, actually coſts him ten ſhillings more than it did in 1790, upon the ſuppoſition that a given ſpot of ground, ſay an acre, yielded the like quantity at each period. If this be the caſe, and we are diſpoſed to believe that it is not wide of the truth, then it may be inferred that agriculturiſts are not placed, by the preſent bill, in ſuch a favourable ſituation as they occupied in 1790, when the laſt one was paſſed. A feeble oppoſition was made to the bill, but it met with little attention. The Glaſgow Chamber of Commerce early committed themſelves, by entering into reſolutions to oppoſe the bill, but they were followed up with very little vigour, and were ſeconded by only few manufacturing bodies. Indeed, the Chamber forgot that, when compared with wages earned by labourers and manufacturers at both periods, the price of proviſions would abſolutely be lower, even if grain reached the importation rates, than that at which they were furniſhed in 1790. The country, generally ſpeaking, ſeemed to be of this opinion; for no corn bill ever received leſs diſcuſſion, or excited leſs attention among the manufacturing and trading intereſts of Great Britain.

When on this ſubject, we cannot avoid noticing ſome parts of Mr Chalmers's late edition of the Political Eſtimate of Great Britain, becauſe we conceive them calculated to do much miſchief among people who are unable to inveſtigate ſuch ſubjects with preciſion. Mr Chalmers, we are aware, piques himſelf upon his accuracy in *matters of fact;* but this calls upon us to deal the more plainly with him. If he had only been a common writer, one who was in the habit of gathering facts at random, we might have paſſed him in ſilence; but his reputation being great, and his authority conſidered by moſt people as unqueſtionable, we are induced to beſtow a few minutes in conſidering what he ſays about the corn trade of Great Britain.

'As I have been aſked my opinion,' ſays Mr Chalmers, 'with regard to ſcarcity, the paſt and the future, I will ſubmit my judgement upon this intereſting ſubject. During the war and the dearth, I was ſilent; though I did not always approve of what was done or ſaid. Now that we have peace and plenty, I will deliver my ſentiments,' &c. &c. (p. 320.)

With regard to the corn laws and their operation, Mr Chalmers concurs with the opinion of Mr Howlett, which he quotes (p. 330.), 'That

'*That the various changes in our corn laws are ſo far from being the only, or even any conſiderable cauſe of the decreaſe of our exports of corn, that there is no neceſſity for ſuppoſing they have been any cauſe at all.*' He then proceeds to ſay (p. 331.), 'After a long conſideration of the corn accounts which were printed by order of Parliament in November 1800, and weighing collateral circumſtances, it appears to me, that the ſeaſons, either good or bad, have been the efficient cauſes of plenty or ſcarcity, from the epoch of the exportation bounty to the preſent times. After fully conſidering this intereſting ſubject, the ſeries of corn laws appeared to me like continued attempts to regulate the ſeaſons.' He then obſerves in regard to prices, 'There are two points which are beyond the power of Parliament: the Legiſlature cannot regulate the courſe of the ſeaſons; neither can the Legiſlature controul the ſubtle and ſilent depreciation of money, which ſeems to have the all powerful force of ſteam.' *

This is ſound doctrine. However (in p. 331.) Mr Chalmers advances the following *ſtrange poſition*. 'I will now ſpeak of the recent dearths, which proceeded from various cauſes. The principal cauſe was, undoubtedly, a long ſeries of unfavourable ſeaſons. We have, as I have already ſhewn, not only a greater number of people to feed; but a greater number of opulent and waſteful people to feed, owing to the favourable change in the circumſtances of a great many people. *In the mean time, the whole neceſſaries of life were ſold upon the principles of concert. From Cornwall to Caithneſs, there is an underſtanding among the ſellers, who never forget that the conſumers are wholly in their power. And, by means of this underſtanding, and of that concert, there is not a free market in Britain, where the balance of ſupply and demand can vibrate without the interruptions of avarice,*' &c. In page 333, after allowing of an enhancement of price from the war, in conſideration of the more liberal ſupply of the army and navy, and the conſequent additional demand, in proportion to the ſupply, from the army agents, he thus proceeds: 'But ſome other effects of war contribute to enhance the prices ſtill more. When the aſſeſſed taxes and the income tax were collected, the ſuppliers of the neceſſaries of life contrived to impoſe their proportion of thoſe taxes on the conſumers in the prices of the neceſſary articles,' &c.

Now, we would preſume to aſk Mr Chalmers what becomes of his accuracy and moderation, when he aſſerts general concluſions of the above nature, without the leaſt ſhadow of proof from fact, and upon no better authority than his own *ipſe dixit* and *private think*. As *his opinion* was however *in his opinion* to have ſuch unlimited credit with the public, we muſt give praiſe to his diſcretion, in abſtaining from giving it during the time of dearth, that he might not increaſe the public irritation. We might alſo inquire upon what principle he judges of the effect of ſeaſons, as that upon which prices depend more than upon corn laws. For if we admit of concert and combination among the ſellers as a principle regulating prices, it remains to be aſcertained how

* The author adopts implicitly Sir George Shuckburgh Evelyn's ratio of depreciation, though we think the truth of its data very queſtionable.

how far this influence extends. Does this underſtanding and concert only prevail among the ſellers in ſcarce years? If ſo, before Sir George Shuckburgh's tables can ſhew the extent of depreciation of money, an allowance of deduction, for the effect of this underſtanding in concert, muſt be made in every dear year, before it can afford the proper datum of price. It is ſtrange that this underſtanding and concert ſhould only affect prices in times of ſcarcity, when it expoſes the ſellers to obloquy and outrage, and ſhould not more certainly take place in ſeaſons of plenty, when it might be carried to great length without any danger. Or is it, that dearth is never owing to ſcarcity, but always to this underſtanding and concert, and of courſe that cheapneſs does not indicate plenty, but merely a want of underſtanding and concert among the ſellers?

We wiſhed to have diſcuſſed, with more minuteneſs, the ſtrange opinion entertained by Mr Chalmers concerning the underſtanding which prevails among the dealers in grain; but the bounds of this article reſtricts us from doing more (at leaſt at this time) than merely noticing it. It is only of late that we heard of the publication, otherwiſe we would have examined him more ſtrictly in another place. In a word, we may only add, that no man, converſant with the corn trade of Britain, can for a moment ſeriouſly believe it practicable to regulate prices by any previous concert or underſtanding among the ſellers. Nay more, it is impracticable to regulate the prices of a petty market; for the ſellers can never aſcertain beforehand the number of purchaſers, or the extent of their demand; therefore all previous concert may in a moment be overturned.

Our readers will obſerve, in the firſt Branch, ſome excerpts from the report of the Malt-tax Committee, wherein the evidence given by our reſpectable friend and correſpondent Dr Skene Keith makes a conſpicuous figure. After all that has been done, no relief can be obtained for Scotland, at leaſt till another Seſſion, Mr PITT having moved that the conſideration of the buſineſs ſhould be put off to that time, in order, as he ſaid, that ſatisfactory experiments might be made to aſcertain the relative qualities of Engliſh and Scotch Barley. We were never very ſanguine in expecting relief, though we have repeatedly preſſed the neceſſity of it, unleſs it was meant to ruin the culture of barley in Scotland altogether. Our landed gentlemen have, however, remained in a ſtate of apathy during the diſcuſſion; not a ſingle public body having ſtirred, except the Highland Society of Scotland, who certainly deſerve much praiſe on this occaſion. We repeat what was formerly ſtated, that Scotch barley cannot compete in the market with Engliſh barley at more than half duty; nay more, that its ſale, in bad ſeaſons, will always be injured even when half duty is paid. The original value of the raw article is comparatively trifling to that of the perfect article; therefore no juſt concluſions can be drawn from the prices of each country, though it appears that the Committee had beſtowed much attention in inveſtigating and aſcertaining them.

The property-tax remains, ſo far as we know, uncollected in every county; and the indeciſion of the commiſſioners and others appointed

to

to execute the act which impoſed it, ſhews, in the cleareſt manner, that our original ideas concerning its intricacy and confuſion were not without foundation. In making aſſeſſments upon farmers, who have occupied for more than ſeven years, no rule or principle is laid down, except that the aſſeſſment muſt be levied according to rack-rent. But what is rack-rent? Why, juſt ſo much as the farm will give, when no fine or graſſum is paid. But then, whether this rent is the ſum at which the farm would ſet, for one year, for a leaſe of twenty years, or for one of a hundred years duration, the act does not ſay; though, no doubt, the value of any farm is much regulated by the length of tenure under which it is poſſeſſed, and by the extent of abilities enjoyed by the poſſeſſor. Here is a ſource of diſpute and of unequal aſſeſſment which ought to be removed, otherwiſe valuations can never be correctly made. We underſtand that a plan was laid before his Majeſty's miniſters which, in a great meaſure, would have placed the farmer in the like ſituation with other claſſes; that is, his profits would have been aſſeſſed by ſurveyors of ſkill and capacity, who were actual farmers, and reſided in his neighbourhood. It does not however appear that any ſteps have been taken to operate upon this plan; though, unleſs ſomething of this nature is reſorted to, the occupiers of land will, leſs or more, continue to be taxed upon a higher ratio than their fellow ſubjects, who enjoy equal gains and profits. If the commiſſioners appointed to execute the act are men of diſcernment, relief, to a certain extent, may be gained; but ſo long as rent is held, in any ſhape, to be the criterion of aſſeſſment, the grievance complained of cannot be altogether removed.

A buſineſs of much importance to all maſters, and involving the intereſt of farmers in particular, was lately before the Lower Houſe of Parliament, on which account alone we notice it here. We allude to the proceedings in the caſe of Mr Morriſon, a farmer in Banffſhire, and Garrow his ſervant. The queſtion ſhall be viewed in the abſtract, becauſe it admits of a general application. A very few remarks ſhall only be offered.

When a maſter hires a ſervant, the time of the latter, to an extent either aſcertained by poſitive paction, or regulated by common practice, is transferred upon certain conſiderations ſtipulated betwixt the parties. The ſervant, if in health, cannot withhold his ſervice without breaking his part of the agreement; nor can he employ his time in other occupations, unleſs he receives the ſanction of his maſter. If the ſervant craves leave of abſence for an hour, a day, or a week, the maſter may grant it or not, as he chooſes; but, in ſuch caſes, the ſervant cannot be the judge, ſeeing it is the property of another that he is diſpoſing of. If the ſervant could diſpoſe of his time according to pleaſure, with the like propriety might the maſter contend for liberty to ſpend the wages promiſed to the ſervant, or withhold any part thereof as fancy ſuggeſted. We aſſuredly think that farm ſervants are entitled to every encouragement and mark of favour, and in our practice have conſtantly ſtudied their comfort and welfare; but, were ſervants made judges in theſe matters, it is clear that nothing ſhort of anarchy and

insubordination might be expected to follow. Applying these remarks to the case of Mr Morrison, it appears that his servant Garrow took an unwarrantable liberty, when he deserted service for a day, without obtaining permission. We give no opinion concerning the expediency or prudence of Mr Morrison's conduct; but we are decidedly of opinion, that if a servant could go to an inspection contrary to the will of his master, he might go to other places, and engage in scenes of a very different nature, whether his master gave him permission or not.—— *July* 30.

N. B. Since the above was sent to press, the following account of the new Corn Bill has been received from our correspondent in London.

According to the Corn Bill (which now only waits the Royal assent), the exportation and importation of grain, from and into Great Britain, are to be regulated by the aggregate average prices of the whole of the twelve maritime districts in England and Wales, and of the whole of the four maritime districts in Scotland, from the quarterly and weekly returns; and the exportation and importation allowed at the following duties and bounties. The bill commences on the 15th November.

EXPORTATION ALLOWED.

Wheat - - - - if at, or under 48s. p. quarter, Bounty 5s. p. quarter.
Rye - - - - - if at, or under 32s. p. quarter, Bounty 3s. p. quarter.
Barley - - - - if at, or under 28s. p. quarter, Bounty 2s. 6d. p. quarter.
Oats - - - - - if at, or under 16s. p. quarter, Bounty 2s. p. quarter.
Peas and Beans if at, or under 35s. p. qr. exportable, but without bounty.

EXPORTATION PROHIBITED.

On Wheat - - - - - - - - if above 54s.
Rye, Peas and Beans - - - - - 35s.
Barley, or Malt - - - - - - - 31s.
Oats - - - - - - - - - - - - 19s.

IMPORTATION ALLOWED.

Wheat—If under 63s. p. qr. Duty 24s. 3d.—If at, or above 63s. but under 66s. Duty 2s. 6d.—If at, or above 66s. Duty 6d.

Rye, Peas and Beans—If under 42s. p. qr. Duty 22s.—If at, or above 42s. but under 44s. Duty 1s. 6d.—If at, or above 44s. Duty 3d.

Barley—If under 31s. 6d. p. qr. Duty 22s.—If at, or above 31s. 6d. but under 33s. Duty 1s. 3d.—If at, or above 33s. Duty 3d.

Oats—If under 21s. p. qr. Duty 6s. 7d.—If at, or above 21s. but under 22s. Duty 1s.—If at, or above 22s. Duty 2d.

Extracts from Private Correspondence.

SCOTLAND.

Letter from a Gentleman in Glasgow, June 15th.

'You will remember that I formerly mentioned a piece of ground of two acres adjoining to this city, which I was endeavouring to improve.

In

In November 1802 I planted it with the beſt ſorts of gooſeberry buſhes from Lancaſhire. They were planted in rows with ſeven feet of intervals, and five feet betwixt each buſh, and are thriving tolerably well, though no fruit worth mentioning has as yet been got.

Laſt ſeaſon I had potatoes in the intervals, ſay about 30 inches from the buſhes, which in many parts failed altogether. The cauſe of failure was from the ground being infeſted with a ſmall yellow worm, about one inch long, and about the thickneſs of a ſtrong pack-thread. In the month of February this year, I ſpread quicklime, and alſo lime rubbiſh upon the parts moſt infeſted; but, to my aſtoniſhment, the worms ſeem to be rather increaſed than diminiſhed thereby, and the potatoes planted this year have in conſequence failed. As an experiment, I ſowed part of the field with onions and leeks, about two thirds of which failed to appear; and where the inſects are moſt prevalent, even the ſeeds that vegetated are ſince completely deſtroyed. As a further experiment, I mean to plant ſome hundreds of cabbages and ſavoys, and alſo to ſow different kinds of turnips. Pray give me your opinion on theſe matters, or inſert the ſubſtance of this letter in your Magazine, ſo as I may be favoured with the ſentiments of your correſpondents.'

'*P. S.* Since writing the above, I have viſited the field, when my gardener took up the encloſed ſample of theſe devils. The ſoil is abſolutely perforated by them.'

Letter from a Gentleman in the neighbourhood of Perth, July 16.

'The crops in this quarter promiſe to be good, notwithſtanding the ſharp froſts which we have lately had in the evenings and mornings, particularly on Wedneſday laſt, which leads me to ſuſpect that the tender blooms of the wheat may be injured, though, as yet, no evidence thereof is diſcovered. Yeſterday we enjoyed a fine mild ſhower, which, with the warmneſs of the weather, it is to be hoped will produce beneficial effects. Hay harveſt is in great forwardneſs, and will ſoon be concluded if the weather continue favourable. The produce this ſeaſon is, without doubt, below that of an average crop. Turnips every where in this neighbourhood look extremely well. Wheat on the fallows is, in general, a good crop; but oats and barley threaten to be of little bulk. In our markets, cattle in good condition ſtill command fair prices, though ſomewhat under thoſe of laſt year.

Dumfrieſhire Quarterly Report.

A favourable change of weather commenced in the end of April, when vegetation began with rapidity, ſince which it has received little check. Cold bottomed lands, however, were ſo extremely chilled by the ſpring rains, that the crops upon them were very long of recovering; and indeed, at this day, there is a greater difference between the crops of them and dry ſoils, than has at any time been obſerved after ſo long a tract of warm good weather. Wheat is generally luxuriant upon good ſoils, and has the probable chance of being well filled from moderate weather while in the flower, of which there never was a greater ſhow upon the ear. The quantity of wheat in this county is greater than ordinary,

dinary, owing to the ſtagnation of the ſale of barley. Oats, though ſtrong and forward on dry ſoils, are backward on cold-bottomed lands, and do not on the whole promiſe more than an ordinary crop. There has been ſome demand of late for wheat and oats for the Liverpool market. Wheat per Winchester buſhel ſells at 6s.; Potato Oats at 3s.; Common Oats at 2s. 6d.; beſt qualities. Theſe are conſidered as low prices; and though ſome years ago this might not be the caſe, they are now certainly much under what grain can be afforded at by the farmer who pays additional rent, and double wages to ſervants, labourers, and tradeſmen. The increaſe of the expence of the implements of farming would of itſelf require a conſiderable addition to the price of produce.

Turnips were generally late of ſowing, but are come up well and healthy. Thoſe ſown early, however, have on ſome farms been affected by the ſmall black caterpillar, which deſtroys the leaf entirely; and one farmer, it is ſaid, has already ploughed down a field of ten acres from this cauſe. This worm, ſo far as I have obſerved, has appeared once only in my time of farming, about twenty years ago. It then deſtroyed many fields, and prevailed generally over the kingdom. It eats the leaves wholly, except the fibres. It is extremely tender. It ſeems likely that a light roller would deſtroy them, without injuring the crop otherwiſe when ſo young.

The demand for ſheep and cattle has been ſlow; ſo much ſo, that the Engliſh farmers and dealers have not come for them as uſual; and when carried up by the Scotch dealers, a fall of prices muſt enſue. Rough ſheep, of the ſhort or moorland kind, have kept better up to their former price than the long or Cheviot kind, which is the more unuſual, the price of wool having been on the riſe. Hogs have given from 10 to 13s. the ſhort kind; Dinmonts from 15 to 20s.; Long ſheep not more. Year-old ſtots in June about 5l. Yeld cows, Annandale or Galloway ſize, from 7 to 10l. Theſe are 20 per cent. under laſt year's prices; but are, in my opinion, not to be reckoned too low.—*July 20th.*

Letter from Inverneſsſhire, July 23.

'In the neighbourhood of Inverneſs, the crops in general preſent a good appearance, eſpecially upon the hill and moor lands, which are, on the whole, more weighty than thoſe on the ſea-coaſt. A few of the early turnips ſuffered from the fly; but it was ſo far lucky that we had an unequal braird, as the laſt come up ones ſupplied the deficiency occaſioned by the ravages of that inſect. Potatoes make a good appearance, though curled ones are to be ſeen in many fields. Improvements in agriculture are faſt advancing in this county; and a perſon who has been abſent for a few years, will hardly be able to recognize the fields he was formerly acquainted with, ſo great has been the change.

'The Caledonian Canal is carrying on with ſpirit, though none of it is yet dug out to its full depth. A great number of hands are employed, the moſt of them at piece-work, or at ſo much per ſolid yard; when employed by the day, not more than eighteenpence of wages is given at preſent, though I am convinced that ultimately this great undertaking

dertaking muſt have a conſiderable effect in raiſing the value of labour here. Cattle have a dull ſale at preſent; and as to ſheep, matters are ſtill worſe, being at leaſt ſeven or eight ſhillings per head lower than laſt year. We have had heavy rains for ſeveral days paſt, which has retarded the harvelling of hay, the crop of which may be conſidered as a good one.'

Letter from Falkirk, July 24.

'Almoſt immediately after I laſt wrote you, an uncommon change took place in the weather, which for ſome time before had been dry and bitterly cold, but became mild and genial, with refreſhing ſhowers. Vegetation in conſequence advanced rapidly, and has continued almoſt uninterrupted ever ſince. The weather, for ſome time paſt, has been very warm and dry; but during the laſt four or five days, we have had a good deal of rain. Under ſuch circumſtances, any opinion of the probable return of the preſent crop would be little elſe than conjecture; ſo much muſt depend on warm dry weather at this critical period of the ſeaſon. Already many of the heavy crops are conſiderably lodged. Hay may be ſafely pronounced the worſt crop that has been in the diſtrict of the Carſe for ſome years; I underſtand, however, it is better on the dry-field ſoils. The ſecond crop promiſes to be luxuriant. Paſtures have been excellent through the whole ſeaſon, and, after ſo much rain of late, are likely to continue ſo. The diſtreſs often occurring from overſtocking can ſcarcely have been felt at all this ſeaſon, except under the moſt injudicious management, as the paſtures have been capable of carrying forward more than an ordinary ſtock. Upon the whole, the crop at preſent promiſes well, is more bulky than laſt year, particularly oats, and harveſt is likely to be early. The ſeaſon, however, has not been favourable for working the ſummer fallows; they are conſequently not in ſuch a high ſtate of cultivation as could be wiſhed for at this advanced period of the year, in a clay diſtrict, where ſo much hereafter depends on that proceſs being effectually accompliſhed; and the ſame cauſes that have produced a bulky crop of grain, have brought forward alſo abundance of weeds, ſo that the fields very generally look foul. Our grain market has advanced a little during the laſt quarter. Wheat ſells at 30s., Barley 20s., Beans 18s., Oats 20s. The price of hay is not yet fixed; but, notwithſtanding the bad crop of it in the Carſe, it is not expected to exceed 7d. a ſtone. The extenſive cultivation of ſown graſſes has of late years increaſed the quantity of that article beyond the demand.

In my laſt letter, when adverting to the importance of the tenure by leaſe to the general intereſts of agriculture, I took occaſion to mention ſome circumſtances reſpecting the barony of Kinniel in our neighbourhood, that appeared at the time to apply in illuſtration of that opinion; and in warmly eſpouſing the general cauſe, was led to animadvert ſomewhat pointedly on that particular caſe. The ſubſtance of the paragraph alluded to I had from one of the tenants in common converſation. It was at that time, indeed, the general topic of diſcourſe amongſt them, and, from having talked the matter often over, their fears (becauſe perhaps

haps the noble proprietor poſſeſſed the power) had at laſt magnified the poſſibility of ſuch an event into a reality. It now appears that all theſe fears had ariſen merely in conſequence of a gentleman of acknowledged talents in theſe matters having made a ſurvey of the eſtate, and, in the performance of that taſk, having neceſſarily made ſome inquiries amongſt the tenants. I have ſince learnt, not only that no intimation of removal had been given them by any of the agents of the nobleman to whom it belongs, but that no ſuch intention ever exiſted. I feel extremely happy to embrace the very firſt opportunity of making this acknowledgement to that nobleman, becauſe that paſſage in my laſt letter, without the ſmalleſt intention on my part, might perhaps by ſome be conſtrued into a pointed reflection on him as an individual, when it was meant merely to illuſtrate generally the value of the tenure by leaſe, in preference to any looſe manner of holding farms, which might ſubject tenants to a ſudden and unexpected removal, or to a lawſuit,' perhaps the greateſt evil of the two.'

Mid-Lothian Quarterly Report.

A FAVOURABLE change of weather took place about the 26th of April; and during the month of May vegetation proceeded with a degree of rapidity proportioned to the lateneſs of its commencement. The fields became green almoſt inſtantaneouſly, and never was old paſture graſs in greater abundance. But the ſame cannot be ſaid of new graſs; for, what from the want of plants owing to laſt year's drought, and their feebleneſs, ariſing from the chilneſs of ſpring, hay is a ſcanty crop. The price is not yet eſtabliſhed, but ſeveral ſales have been made at ninepence and tenpence per ſtone of 22 lib. from the rick. There will, however, be an immenſe difference in the qualities of hay this ſeaſon; a circumſtance that ought to be attended to both by ſellers and purchaſers of it, many fields being overrun with white gowans, which horſes will not taſte.

Wheat is a full crop every where as to bulk; and ſhould the next month prove mild and dry, may be expected to yield well. The various other crops alſo look well; but thoſe upon thin clay land ſtill evince that they are the offſpring of a wet ſeed-time. A general harveſt will be a fortnight or three weeks later than laſt year, and the potato fields appear as much affected with the curl as ever.

Turnips have generally come up evenly; but they have lately been attacked by millions of caterpillars, which threaten their deſtruction. They are black, and about an inch long. They eat up all the leaves, and allow only the ſtems to remain. Various methods have been tried to kill them, ſuch as rolling, applying quicklime, ſoot, &c.; but all of them without ſucceſs. Some people have introduced ducks into the fields, who eat the worms with avidity; and others are at pains to employ boys and girls to go along the rows and bruiſe the animals between their fingers. It is hoped that the late rains will haſten the period of their exiſtence, or invigorate the remaining plants, ſo as to be able to withſtand the ravages of theſe deſtroyers.

Moorland lambs have fallen about 40 per cent. at the late markets; that

that is, thoſe that ſold for 10s. laſt year, now only bring 6s., and others in proportion. They are plentiful, but by no means good.—*July* 27.

Kincardineſhire Quarterly Report.

The late favourable weather has brought the crop, in general, over this county, very faſt forward. The oats are a thick crop. The bear, for we grow very little barley, is tolerable, though rather thin upon the ground. The wheat and peas excellent. Hay is a light crop; the clover in moſt places having failed. The firſt ſown turnips have ſuffered much from the fly; but thoſe ſown about the end of June and beginning of July look well. The paſtures never were more luxuriant than this ſeaſon; but, owing to the late drought, have become rather ſtinted in growth. Black cattle have declined conſiderably in price; and lean ſheep have fallen at leaſt a fourth in their value.—*July* 26.

Aberdeenſhire Quarterly Report.

Soon after laſt report, the weather changed for the better; and, on the whole, has proved favourable to this diſtrict through the ſummer quarter. The crop upon ſtrong land, and upon fields in good condition, is luxuriant; but the dry thin ſoils, eſpecially ſuch as are imperfectly cultivated, will yield but a poor return. If the ſeaſon continues favourable, there is every reaſon to believe that the crop, taking matters upon the great ſcale, will be rather above than below an average.

Hay harveſt is moſtly over, and the produce is good. Both turnips and potatoes have a promiſing appearance, and the paſtures preſent a full bite. For ſome weeks paſt, the cattle markets have been duller than formerly; but the depreſſion in price has been more with the ſmall and lean beaſts, than with thoſe of ſize and condition.——27*th July*.

Morayſhire Quarterly Report.

After a ſevere and backward ſpring, which by no means promiſed abundance, we were favoured with the fineſt ſeaſon, during May and part of June, that has been remembered for years. Afterwards the weather became remarkably dry, accompanied with ſcorching winds, which had a tendency not only to ſhorten the corn crop, and ſtint the paſtures on our dry grounds, but alſo threatened the turnips with deſtruction. Fortunately, we have now got moderate rains and warmth, which have had the beſt effects. And although in this county, where the ſoil varies from the pooreſt ſand to the moſt fertile loam, it is not to be expected, that any ſeaſon can ſuit all equally well; yet, on the whole, the growing crop promiſes well, and not to be late.

Wheat, oats, and peas are all good; if there is any particular deficiency, it appears to be in barley. It is at ſame time remarked, that many luxuriant wheat fields are infeſted with ſmut, a diſeaſe which (from whatever cauſe it proceeds) may certainly with attention be alleviated, if not entirely got the better of. We had no grain of laſt crop to ſpare, except wheat, which was ſold by the farmers at 21s. per boll, and has not at that low price turned out an advantageous purchaſe, being moſtly all winter thraſhed, and in many inſtances tinged with ſmut:

the ſouth country bakers have rejected it, and will continue to do ſo, while there is ſo much of fine quality at market. Hay is a middling crop, and ſo are both turnips and potatoes. Black cattle are much reduced in price; but ſtill might pay the breeder, if ſales could be readily effected, which is by no means the caſe.

Much of this county is well adapted for the cultivation of rye, from which many farmers are only deterred by want of a market. Should this report reach any diſtiller, inclined to contract for the purchaſe of this grain, his propoſals, addreſſed to the Secretary of the Morayſhire Farmer Club, will meet with due attention.——*July* 28.

Letter from Glaſgow, 31*ſt July*.

'The weather during the ſummer, eſpecially ſince the beginning of June, has been remarkably favourable for the coming crop. Hay is good and well ſecured; and the paſtures continue very fine. Wheat every where around us has a good appearance; and ſhould the preſent favourable weather continue till it is harveſted, an excellent crop, both in regard to quantity and quality, may be expected. Oats are not in ſo forward a ſtate; but have a very good appearance. Barley threatens to be a bad crop: there was but little ſown in this quarter, the ſeed-time being very unfavourable. Potatoes promiſe well. There was a conſiderable quantity planted this year; but the weather coming on very wet immediately after, a good part of the ſeed gave way in the low grounds, though, where the ſoil is tolerably dry, the crop appears to be very great. About three weeks ago, we had two or three nights of froſt, which conſiderably hurt this eſculent upon low marſhy grounds.

'Since the end of April laſt, there have been imported from Ireland into Clyde about 33,200 bolls of oats, and 10,200 bolls oatmeal. Two cargoes of wheat have, within theſe few days, arrived in the Clyde from Canada, and a conſiderable quantity more is daily expected. The quality of that grain this year from Canada is fine. Our port being open for importation of wheat at the low duty, during the laſt quarter, we had conſiderable quantities of Dantzic wheat in our market, which, with the farther ſupplies expected before the 15th November, will, we think, keep prices from advancing much here for a good while to come.'

State of Glaſgow Markets, July 31.

Canada Wheat	23s. to 30s.	per boll of 240 lib.
Dantzic do.	29s. — 31s	per boll Linlithgowſhire meaſure.
Lynn do.	27s. 6d. — 28s.	
Scotch do.	28s. — 31s.	
Iriſh do.	23s. — 24s.	
Barley	24s. — 25s.	per boll Stirlingſhire meaſure.
Beans and Peas	20s. — 21s.	
Grey Peas	20s. — 21s.	
Small Oats	18s. — 20s.	
Potato do.	22s. — 23s.	
Iriſh do.	22s. — 23s. 6d.	per boll of 264 lib.

Old Hay 7d. to 8d.—New 5d. to 6d.—Straw 4d. to 5d. per ſtone.

Letter

Letter from a Farmer in the Upper Ward of Lanark, July 31.

'The oldeſt perſon living does not remember a better ſeaſon than we have experienced ſince the middle of May; of courſe, the crops of all kinds are good, eſpecially upon the dry ſoils. Turnips had a very promiſing appearance till the 18th July, when they were attacked by a dark grey worm, which was never ſeen before in this country. Whole fields were eat up in three or four days; and, in fact, one half of our turnip crop has been deſtroyed by theſe ravenous intruders. Potatoes are making a promiſing appearance; and the hay harveſt is generally over. Cattle and ſheep markets are dull. Stock lambs that ſold laſt year at 10s. 6d. will only now bring 6s. 6d.'

Berwickſhire Quarterly Report.

The weather, during this quarter, has been fortunately calculated for correcting the bad effects which reſult from a wet ſeed-time; having been generally warm, with frequent ſhowers, which prevented the clay lands from binding ſo ſuddenly as they muſt otherwiſe have done. But this moiſture, while it tended to cheriſh the corn fields, rendered the preparation of turnip fallows, where the ſoil contained any mixture of clay, a very difficult buſineſs, and ultimately occaſioned a partial braird upon many ſoils of that deſcription. The light ſoils made a fine full braird; and though ſeveral fields have ſuffered conſiderably from the black caterpillar, the turnip crop at preſent may be ſaid to wear a promiſing aſpect.

Paſturage has been abundant, and young clovers are thriving; but, from the deficiency of plants in fields of laſt year's ſowing, hay cuts up very light; but potatoes are a promiſing crop.

Oats are in general good. Wheat is healthy, but ſeveral of the winter fields are thin on the ground. Barley had a ſickly appearance while in the ſhoot blade; and, though it has recovered much of late, will prove but a light crop. Peas and beans promiſe well, being luxuriant and full of bloſſom.

Upon the whole, the crops at preſent are very ſuperior to any thing which the moſt ſanguine agriculturiſt could anticipate from the complexion of affairs at ſeed-time; and, if we are favoured with a continuance of warm weather, the harveſt, inſtead of being late, will probably commence rather earlier than uſual.

Long wool has ſold currently at 24s. per ſtone of 24 lib. avoirdupois, which is 8 or 10 *per cent.* above laſt year; but the fleece has been deficient in weight nearly in the ſame proportion. Prices of lean ſtock have been recently on the decline.——*Aug.* 1.

Eaſt-Lothian Quarterly Report.

Though we have experienced another dry ſummer, the crop of this diſtrict may be reported as equal to an average one. Wheat, generally ſpeaking, promiſes to yield well: Barley, in the preſent ſtage, is conſidered to be much ſuperior to the growth of laſt year. Beans and peas

are tolerably bulky, but indifferently podded; and Oats are a ſhort crop, as uſually happens with us in dry ſeaſons. Indeed, the bad effects of a wet ſeed-time have been more conſpicuous upon oats, than any other of the ſpring-ſown crops.

Hay proved a poor crop, and of inferior quality. Potatoes are rather more curled than cuſtomary. Turnips and ruta baga were ſeverely injured by the black caterpillar; but as this inſect has now diſappeared, many fields have aſſumed an excellent appearance. The paſtures were good in May and June, but latterly have fallen off conſiderably.

The grain market at Haddington has been poorly ſupplied through the ſummer, unleſs with wheat, which has conſtantly been plentifully preſented. There have been few purchaſes made at the ſea-ports, which, of courſe, augmented the quantity ſhown in the public market. The prices at preſent are—For good wheat, weighing 65 lib. per firlot, 31s.; Barley, 21s. to 21s. 6d.; Oats, yielding meal for corn, 21s. 6d.; Potato Oats, 24s.; Beans and peas, 18s. 6d.; all per boll Linlithgow ſtandard meaſure.——*Aug.* 1.

N. B.—Since the above was written, a material change of weather has taken place. On Friday and Saturday, more rain fell than has been received ſince the middle of April, which will be ſeverely felt by the ſtrong wheats, they being wholly beaten down thereby. Graſs, turnips, potatoes, and late oats, ſtand, however, a fair chance of being much benefited, though this depends greatly on the after weather. At this time, the weather is raw and cold, the wind blowing from the weſt. Harveſt will commence in many places this week, though no general cutting will take place for a fortnight at leaſt.——*Aug.* 6.

Inverneſs-ſhire Quarterly Report,

On the whole, we have had a very favourable ſummer, and our crop may be conſidered as of double value to what was reaped laſt year, though ſtill it cannot be reckoned as above a fair average one. During the courſe of this year, large importations of grain and meal have been made into this northern diſtrict; and, I believe, not fewer than forty thouſand bolls have been landed within the precincts of Inverneſs Cuſtom-houſe, which has drained the diſtrict of money, an article not to be ſoon ſupplied, as black cattle and ſheep have a dull ſale, and at reduced prices. Turnips and potatoes are abundant crops. Harveſt will be pretty general in this neighbourhood by the middle of Auguſt, if the weather continue favourable.——*Aug.* 2.

ENGLAND.

Letter from an extenſive Farmer in Dorſetſhire, July 8.

'Our corn markets are nearly over for this ſeaſon, except what may be wanted from hand to mouth. In the firſt part of ſummer, we had fine dry weather, but latterly a good deal of rain has fallen, which has been a fortunate circumſtance for the late ſown crops, as, otherwiſe, they would not have been worth harveſting. Our wheats are but indifferent;

ferent ; much injurry was done by the grub-worm in winter, and the ears in general are ſhort. The barley and oats were dying daily before rain arrived, but are now much refreſhed, though none of them can be bulky at harveſt. The ſpring was favourable to the water meadows, which now carry a large crop. Turnips, early ſown, were all deſtroyed by the fly, the greateſt enemy to that valuable root. We commonly here ſow them broad-caſt, but I have been in the habit of drilling for many years.

It is believed that the country is pretty full of ſtock, eſpecially of ſheep and lambs ; but fat beaſts are ſcarce. This will excite no wonder, when it is conſidered that all our fleets in the Channel, and on the French coaſt, are ſupplied with live ſtock from Portſmouth and Plymouth. Beef, at preſent, is worth from 12s. to 14s. per ſcore ; Mutton, in market, 8d. per lib. ; Lamb and Veal much the ſame. Our ſheep fairs are juſt beginning. At Dorcheſter, on Friday, few people attended ; ſo no judgement can as yet be formed of the prices. Little wool is ſold yet, though the article is expected to advance. '

Letter from a Farmer in Wales, July 15.

' Since I wrote you in April, the weather has been favourable, and vegetation extraordinary rapid, which gave us at once a great flush of graſs. The demand for cattle was, of courſe, as great as ever known here, though lately matters are at a ſtand, and prices on the drop. Ewes and lambs ſold briſkly in the beginning of the ſeaſon, but this did not continue long ; for ſuch lambs as laſt year were worth 20s., will not now bring more than 14s.

Corn crops on the ground make a good appearance. Oats and barley, particularly on clay ſoils, were much ſtinted before the late rains, but are now greatly recovered ; and if we have a favourable harveſt, a ſaving crop may be expected. The early ſown turnips, owing to the dry weather in June, failed in many places ; but the latterly ſown ones have come up well, and promiſe to make a good crop. The hay fields give a good return, and a great part of the produce is ſecured in proper condition. Potatoes are excellent. '

Northumberland Quarterly Report.

The ſcarcity of food, ſo much complained of in the latter end of April, was relieved by the weather ſetting in fine and freſh in the beginning of May ; and a quick vigorous vegetation immediately ſucceeding, and continuing for ſome weeks, made the paſtures remarkably good, and, upon the old graſs lands, the hay crop abundant. The caſe is otherwiſe with the clovers, which are not only deficient in plants, but the few that are, have not grown with their uſual luxuriance. This deficiency is ſuppoſed to have been occaſioned by the cold and wetneſs of the ſpring months.

The turnips were in general put in with a ſufficient degree of moiſture ; and, of courſe, they came very well, eſpecially thoſe ſown the beginning of June ; but many of the early ſown were much injured, by the fly deſtroying the ſeminal leaves, which occaſioned ſeveral crops to be ſown over again. But a worſe enemy (the ſmall black caterpillar)

is

is at preſent making its appearance, and deſtroying them with great rapidity.

Wheat has the appearance of being every where thin; but the other kinds of grain promiſe, on the whole, to be nearly an average crop.

The markets for lean ſtock have been lowering for ſome time. Sheep are ſold from 5s. to 10s. a head leſs than laſt year. Wool is advanced, long wool being ſold from 24s. to 26s. per ſtone of 24 lib. The corn market is alſo advancing.——*July* 21.

Yorkſhire Quarterly Report.

The produce of hay is generally abundant; the winning of it rather backward, much being ſtill out in many parts of the country: yet a conſiderable quantity has been ſaved in tolerable order, the weather not having been ſhowery during the whole of the ſeaſon. The after-graſs is growing rapidly, by the return of frequent ſhowers. Theſe circumſtances have produced a conſiderable decline in the price of hay, both new and old. The preſent value is about 4l. per ton.

Many crops of wheat promiſe well; but many alſo are complained of as being ſhort and ſmall in the ear, even on the beſt ſoils, and under the beſt management. This crop is remarkably better on the clover leas of all ſorts, than the bean ſtubbles; though the beans were a good crop laſt year. Barley is good; Oats by much the worſt in general; Beans wear the aſpect of abundance, both in ſtraw and pod. Apples in this part of the country are in tolerable plenty; but the writer of this report, in a late journey through Herefordſhire and neighbouring counties, obſerved a total failure of that fruit; the orchards, nearly without an exception, preſenting the melancholy aſpect of naked branches, deſtitute both of fruit and leaves. Rape and flax are good. Potatoes peculiarly good and abundant.

Notwithſtanding the excellent tilth and manuring beſtowed on the turnip fallows, the crops of that root are in moſt places extremely unpromiſing. Many fields of them have been much damaged by the worm-flug, &c.; others have been ploughed up, and the ground reſown, and ſome will ſtand for leſs than half a crop. This complaint appears to be general throughout all the turnip diſtricts. Probably ſome attention to Vagg's method of *night-rolling* might this ſeaſon have been beneficial. On the whole, there is reaſon to infer that this crop has become more and more precarious on moſt ſoils. The ſummer fallowing of ſtrong and wet ſoils is rather in a backward ſtate.

Grain of all ſorts has of late been advancing in price. Beſt Wheat about 9s.; Rye, 5s.; Barley, 4s.; and Oats, 3s. 6d. per buſhel of Wincheſter. Wool hereabouts maintains a rate as high, if not higher than that of laſt ſeaſon. Fat and lean cattle are lower, though the paſtures are luxuriant.——*July* 28.

Letter from London, July 30.

'The ſeaſon has been very favourable for the growing crops; the rains we had in the month of June came in time to ſave the laſt-ſown barleys,

leys, which were beginning to feel the effects of the drought; and from the late rains, the barleys are much improved. The turnip crop will in general be a good one. The wheat, in the several counties near the metropolis, generally speaking, is but a thin crop, and in several districts has suffered from blight. On the strong lands in Kent the crops are good, but mostly laid down by the heavy rains; but on the light lands they are thin, and very foul. Oats in several districts are good, and in general will be a fair average. The early White Peas are very light; Hog Peas in general look well, and the accounts from Suffolk of their White Pea crop are favourable. Beans will be a fair average.—The prospect of the Hops in Kent and Surrey is very favourable; in consequence of which the price of that article is on the decline.—The hay crop near London has been a very abundant one, and was all harvested in the best order. Old hay is now sold from 4l. to 4l. 10s. per load, which in the early part of May, from the bad appearance of the crop then, had sold from 5l. 6s. to 5l. 10s.—The supply of oats at Mark-Lane for a month past has been chiefly foreign, and very few of fine quality. For two months past we have had none from the North, and very few from Yorkshire.—Rye has been cutting down for two days past, and appears a good crop. A few oats on light lands will be cut in the course of this week; and, should this favourable weather continue, we may expect harvest to be general in the course of ten days.

State of London Markets, July 30.

Wheat - -	38s. 58s. 64s.	Grey Peas -	38s. to 41s.
Fine Essex and Kent	68s.	Small Beans -	40s. to 42s.
Foreign Red -	35s. to 58s.	Oats, Long feed	20s. to 24s.
White Dantzic	56s. to 69s.	— Short Smalls, or Friseslands -	25s. to 27s. 6d.
Rye - -	28s. to 32s.	— Polands -	27s. to 29s.
Barley - -	26s. 30s. 32s.	All per Qr. of 8 Winch. bushels.	
Malt - -	65s. to 72s.		
Fine Flour delivered to the bakers		53s. to 55s. per sack.	
New Rape Seed - -		37l. to 39l. per last.	
Old Hay - - -		4l. to 4l. 10s. per load.	
New Ditto - - -		4l. per ditto.	
Straw - - -		30s. to 32s. per ditto.	

Norfolk Quarterly Report.

The favourable opinion given in last Report of the wheat crop in this county, is not likely to be established by facts; for, owing to the premature luxuriance formerly mentioned, and to the ravages of the grub and wire-worm, the plants have been so thinned, that the produce cannot possibly exceed three fourths of an average crop; and this conclusion is drawn without making any allowance for blight or mildew, which have already appeared in many fields, and must deteriorate the quality, and reduce the quantity considerably. The mischief occasioned by the grub and wire-worm may be palliated, perhaps completely prevented, as the evil must in a great measure be attributed to the prevailing

vailing practice of ſowing upon the flag, and the abandonment of ſummer fallows, which neceſſarily occaſions an increaſe of theſe reptiles. Barley is thin, and full of weeds, and, with oats, cannot be reported at three fourths of an average. Peas are, in ſome inſtances, injured by the louſe. Beans are very good.

The artificial graſſes exhibited, in the ſpring months, a full plant with a healthy countenance; but afterwards received a check, which they never recovered. The marſhes and meadows produced an abundant crop; but the produce has been much injured by the late heavy and repeated rains. Turnips ſuſtained ſome partial injuries, firſt from the fly, and afterwards from the black canker which this year appeared unuſually early. Viewing the county at large, they may however be ſaid to preſent a favourable appearance.

Grain has lately increaſed in price. This advance is, by ſome people, attributed to the new corn bill, and probably it may have ſome effect; but there is reaſon to think that the efficient cauſe is the preſent appearance of the growing crop. Harveſt will be pretty general in twelve or fourteen days.——*Auguſt* 2.

NOTICES TO CORRESPONDENTS.

Notwithſtanding that *Sixteen Additional Pages* are given, we have been obliged to preſent every article of Intelligence in an abridged ſtate. This was occaſioned by our receiving *the Reports of the Corn and Malt-Tax Committees* after the greateſt part of the Firſt Branch was printed.

The '*View of Society amongſt Farmers, compared with what it was fifty years ago,*' ſhall have a place, provided the ingenious author allows us to leave out a few perſonalities. From the local knowledge diſplayed concerning Eaſt-Lothian, it is preſumed the author can be at no loſs where to find the Conductor of this work; therefore if his addreſs is communicated, a copy of the amendments judged neceſſary ſhall be laid before him.

AMICUS SCOTIÆ's favour is very acceptable, and ſhall, in next Number, be preſented to our readers.—A PROJECTOR will conſider his judicious obſervations as placed under ſimilar circumſtances.

Though *poetical pieces* do not in general caſes enter within the limits of our plan, yet, out of reſpect to the memory of the late DUKE OF BEDFORD, the *Elegy* lately ſent us ſhall be inſerted.

The Second Letter '*on the Improvement of different ſoils for rearing Sheep,*' though delayed, is not neglected. The liberal ſupplies lately ſent us, which we have not room to particularize, call for our moſt grateſull ackowledgements.

The *Liverpool Meteorology*, delayed laſt Number, with the article ſent at this time, will be inſerted in our next.

No. XX. will be publiſhed on Monday, 12th November.

Dele the running title p. 311. and ſubſtitute in its place—'*On the Agriculture of the Netherlands.*'

THE

FARMER'S MAGAZINE:

MONDAY, 12. NOVEMBER 1804.

(No. XX.)

BRANCH I.

ORIGINAL COMMUNICATIONS.

FOR THE FARMER'S MAGAZINE.

Comparative View of Farmers fifty years ago, and at the preſent day, as alſo of the State of Society among them at theſe periods.

[INSCRIBED TO THE EARL OF HADDINGTON.]

THERE are not many popular clamours, either more ancient or more generally believed to be well-founded, than that againſt the oppreſſion of the nobility and gentry to their tenants. In former times, it was the occaſion of rebellions in England; and, in our own days, of heart-burnings and much diſcontent amongſt the lower orders of ſociety in every part of the iſland. I pretend not to examine what real cauſe was given for theſe: this might be a ſubject of political inquiry, not unworthy of a wiſer head and a better pen than I can boaſt of. All I aim at, is to beguile a few tedious hours in theſe long ſummer days, and to amuſe myſelf and ſome of your Scotiſh readers, by exhibiting a few of the practices, and ſomething of the ſtate of ſociety amongſt farmers fifty years ago, and comparing them with thoſe of the preſent day. I may perhaps not adhere ſtrictly to my propoſed plan; the connexion may not be cloſely ſtudied, for I ſhall follow wherever my pen may lead me. Compoſition I diſclaim all knowledge of, for, though an old man, I am but a young author. I offer not, however, any excuſe for this attempt, nor do I ſolicit any mercy or

indulgence. Search me well, decompound me, criticiſe me as ſeverely as you can, and, with all your might, '*try from the writings to find the writer out.*'

In the courſe of theſe little ſketches, the critical reader, no doubt, will diſcover ſuch ſtrong internal evidence of my being an Eaſt Lothian man, that it would be to no purpoſe to deny it. Indeed, I have ſometimes boaſted both of that, and of my connexion by blood and friendſhip with many reſpectable tenants in that county. I was educated there, and ſucked in, with my mother's milk, all the common-place outcries againſt landlords; and I carried abroad with me, early in life, the moſt ſettled perſuaſion of the horrors of the farmer's ſituation. This was kept alive by the letters of my friends, and blown up into a flame in 1771, after the eſtate of Dirleton had been divided, and let by the advice of Mr Fowlis. At my return, I renewed my acquaintance with Mr †*** in †*** †*****, whom I had known in Jamaica. It would have been difficult to meet with a fitter perſon to keep up, nay to ſtrengthen my old prejudices. He was continually ringing changes upon the miſerable condition of the farmer; how, placed between the two worſt ſets of men in the country, the lairds on the one hand, and the labourers on the other, it was impoſſible for him to exiſt. My friend is a man of great eloquence: he held it up in many new views, proved it in ſo many different ways, and was ſo much really in earneſt, that I was perfectly convinced the ſituation of the farmer was not by any means an enviable one. It was not before I had been well aſſured that, in his ſhort leaſe for nineteen years, he had added a conſiderable ſum to his fortune, and ſeen his farm let to a ſkilful and thriving tenant at an advanced rent of 500l., that I began to ſuſpect my belief might be ill-founded. I tried to recollect circumſtances, to combine, and to compare the appearance, the comforts, the enjoyments, the every thing of modern farmers, with thoſe of their predeceſſors; and I could no longer credit that men of liberal education, agreeable manners, greater capital and ſuperior ſkill, with improved machinery, and every thing about them wearing the face of plenty, were leſs at eaſe than their forefathers had been, in the lamented days of low rents, and tender indulgent landlords.

I learned to read of a reſpectable old woman in the village; and, at this moment, my ſoul throbs with ten thouſand tenderneſſes, and ſickens within me, when I recollect the innocent plays I and my little compeers ſported at upon the Smiddy Green, long ſince ſubmitted to the plough. My ſchool-fellows were the ſons and daughters of hynds and day-labourers, who were taught by our miſtreſs to anſwer the queſtions in the Mother's and Single Catechiſms,

Catechiſms, and to read the Bible, which finiſhed their education. Now-a-days, it is common for them to attend the pariſh ſchool-maſter, to learn of him to read, to write, and to caſt accounts; and a moderate portion of knowledge is very generally diffuſed among them. Whether this may contribute to the comfort of men doomed to labour for their daily bread, is a queſtion I ſhall not preſume to determine.

A more refined ſtate of ſociety has rejected thoſe athletic exerciſes, in which, in the beginning of my days, the young and healthy employed their leiſure hours. There is now no *ſweerneſs*, no *wreſtling bouts*, at which C****** R*** *in* D******** overcame all his competitors; none of thoſe *curling matches*, where pariſh contended againſt pariſh; no wheels are now hurled down the Skid Hill; *golf* even is ſickly; and, for many years, *bulleting* has not been heard of in the lower parts of the county. It was like ſtinging me with piſmires, to obſerve the puny efforts, in this ſcience, of our yeomanry, when lately in quarters at Dunbar; nor could I, without a ſigh, compare them with thoſe of J*** C********** in all his glory. David Mather was a rival of this mighty hero: they played ſingle-handed a match at Tranent in the year 1756. Mather candidly yielded after the firſt throw, and buried in two caniſters an account of the weight of the bullets, and the diſtance which his rival had flung them. The old miniſter took delight in pointing out to his friends the limits of his nephew's wonderful exertion.

If tradition ſhall not have preſerved ſome faint trace of this fact, at the time when future colliers ſhall chance to uncover theſe caniſters, poſterity will ſuſpect the poſſibility of a man having thrown a bullet ſo far; or they'll regard it as Penelope's ſuitors regarded the bow of Ulyſſes, which they were unable to bend; or, to take a ſimile nearer our own times, and nearer home, as we look with admiration, not unmixed with doubt, upon the ſword of King Robert Bruce, carefully preſerved at Dunfermline, which no degenerate modern is able to wield.

My relation, †**** †****** at †*******, ſturdily oppoſed himſelf to the growing effeminacy and predilection for ſedentary amuſements. Many a ſerious conteſt had he with his ſervants, who was the beſt wreſtler, or who could carry the heavieſt load. It was furniſed at the time, and the anecdote is yet freſh in the memory of many ploughmen in the neighbourhood, that a defeat, on the ſame day, by the ſame man, in each of theſe elegant accompliſhments, diſguſted him ſo much, as to occaſion his leaving the county. He now reſides in the neighbourhood of Edinburgh, where he is continually bewailing the effeminate degeneracy of modern times.

Sixty or seventy years ago, the young farmer's education was little superior to what is at present bestowed upon the sons of the better sort of ploughmen. But now, after a regular course of the classics, and being well grounded in the principles of grammar, he has his school education finished by a winter or two in Edinburgh. His appearance, and manner, and conversation, are those of a man of the world, and such as would not disgrace any man's table. I have a real pleasure in relating the very agreeable surprise expressed upon this subject by David Scott of Duninald Esq., late chairman of the India Company. On a visit to Scotland, after his return from India, he did me the honour to dine at my house, where the conversation naturally turned upon the general improvement of men and things during our absence. Mr Dempster, who was of the party, invited Mr Scott for the following Sunday, and engaged to have some of the most intelligent farmers to meet him to dinner. Mr Dempster kept his word. Mr Scott was delighted with their conversation; and, at this day, takes much pleasure in relating the anecdote to his friends. Commissioner Graham of the Excise, who was present, knows I speak the truth.

It is pleasing to reflect, that superstition, so prevalent in my younger days, is either totally extinguished, or very nearly so. Idle stories of ghosts, elves, and fairies *green and white*, are never heard of: there is hardly a *Willie Mouley* in the county; and the only remnant of superstition that is unquestionably vouched for, is in my worthy neighbour Mr †** at †*******, who would not think either his person or his property secure without the protection of a white cock.

While I rejoice at the decay of superstition, I wish I could add with truth, that piety or true religion is not likewise upon the decline. We certainly have not less honour and moral honesty among us: those complaints of short measure, and mean pitiful tricks, that disgraced our forefathers, are now unknown: yet I observe with pain, that *the grace after meat* has totally disappeared, and *that* before meat has grown shorter; while family worship, the daily practice of better men, in better times, is so commonly laid aside, that it is probably beyond the power of any person in the county, the best acquainted with the private economy of families, to name half a dozen which still continue this very commendable practice.

My late friend, the facetious Sir Hew Dalrymple, used to say, in his merry mood, that he had watched its decay, and that, following the fate of the large black bonnet, it had fallen off, as that had diminished in size, and changed colour from black to simple blue. The coincidence may be accidental; but certain it

is,

is, that the practice of family worſhip is moſt general amongſt thoſe farmers, who, as about Bathgate and in Carnwath Muir, ſtill perſevere in the uſe of the bonnet—of its primitive colour and magnitude.

To be ſure, grace before meat of ſuch length as I have ſometimes heard it, and as it generally was in the time of Eraſmus in the 16th century, when, after grace, ſome perſon who had a good voice read diſtinctly a chapter out of St Paul's Epiſtles, or out of Solomon's Proverbs;—this, I ſay, would be rather inconvenient, and ſubmitted to with great impatience, now-a-days when we are fond of warm victuals. But I moſt cordially join Mr Wilberforce, where, in his excellent *Practical View of Chriſtianity*, he regrets the decay of family worſhip; and think with him, that a conſiderate mind cannot have a more pleaſing image preſented to it, than that of a couple, happy in each other, and in the pledges of their mutual love, uniting with their more immediate dependants, in an act of grateful adoration to the Author of all their mercies.

Farmers in Eaſt Lothian are poſſeſſed of capital and ſkill beyond thoſe of tenants in moſt counties of either England or Scotland; and the ſteady application of theſe to the culture of a ſoil tolerably fertile (of which they are by their leaſes in the fulleſt poſſeſſion), and in a good climate, enables them to pay rents unheard of elſewhere, and even there till within theſe few years. I deſire to be rightly underſtood: I mean not to ſay, their ability to pay ſuch rents ariſes ſolely from ſuperior ſkill and capital; being ſenſible that the increaſed price of the grain they raiſe, the union of corn and graſs farming, the cultivation of turnips, and improvements upon every article of machinery they employ, muſt be allowed to come in for a conſiderable ſhare. Yet, when I think of the *great rents in kind*, paid in former times, I am almoſt diſpoſed to believe, that the heavy additional expence attending all his operations would be ſufficient to counterbalance the higher price, and whatever additional quantity of grain improvements in his art may enable the farmer to bring to market.

The eſtate of Dirleton paid formerly a very heavy rent in kind; and, during the late ſcarcity, I frequently heard Mr Niſbet ſay, that he was receiving leſs from his tenants than their predeceſſors paid an hundred years ago. Craigielaw was long rented at 28 chalders of barley: it now pays about 800 guineas, or 30l. per chalder, or 1l. 17s. 6d. per boll of barley of the old rent. The old farm of Weſt Barns conſiſted of 360 acres, and paid 36 chalders of victual, little more than ſix firlots per acre; wheat, barley, oats, and peas, in equal quantities. One third part of it was let within theſe three months at 5l. per acre,

which is the rent that the proprietors of all the good lands in the county now aim at, and very nearly 3l. 3s. per boll of the old rent. Long Niddry, inferior with regard to foil, but perhaps in a more defireable fituation, being within a dozen of miles of Edinburgh, pays 6 firlots of wheat, 6 firlots of barley, and 20s. of money rent per acre. The corn alone is more than double of what was formerly paid for Weft Barns. Thefe facts I cannot get the better of; I find I am going beyond my depth, and acknowledge myfelf furrounded with a thoufand difficulties, bewildered and loft. This mode of comparing the rents in kind paid long ago, with the modern money rents, prefents us with a new view of the fubject, and, fo far as I know, is altogether novel; but I am acquainted with fo few books upon farming, that I may be far miftaken.

Little capital was fufficient to carry on the bufinefs of a farmer, when oats coft 5s. or 6s. per boll, and wheat 12s. or 15s.; when a good milk cow might be bought for 3l., an able horfe for 7l. or 8l., and when 1000 merks was no defpicable portion for his daughter. Recourfe may be had to the fiars of the county for the prices of grain at no diftant period, and to them I refer your readers; but I take the liberty to ftate fome facts with regard to other matters, and the prices of cattle, that never were generally known, or are long fince forgotten. I might carry you back to the days of *Regiam Majeftatem*, when a fheep coft only three halfpence, and lead you, by an unbroken chain of evidence, to the prices of the prefent day; but this is no part of my plan, and I fhall not now afcend higher than the days of our fathers.

I difcovered lately, among fome old papers, a letter of 1727, from Mr M**** in L******* to his friend, chaplain to a regiment of Scotifh Hollanders, then in garrifon at Menin in Flanders, thanking him very heartily for 14l. 13s. 4d. he had lent, to enable him to *ftock fome grafs parks* he had then taken, probably at Gofsford. How little would fuch a fum avail now-a-days!

Old Robertfon of Cloglen, a refpectable Engliih drover, informs me, that in 1747, and for feveral years about that time, he bought the beft fix or feven years old runts at 50s.; nay, later than that, Patie Herkes and John Thomfon, then in the meridian of their career, bought Highland cows at Crieff fair at 10s. 6d. a piece, and grazed them in the Butterwell-park at Gilmerton till near Yule, when they were fold at 20s. and 21s. to Nifbet, grandfather of your prefent thriving flefhers of that name at Haddington. He knocked them down with a bullet, which he kept in his right hand, while he held their head fteady with his left. Can any of your prefent graziers boaft of as great a proportional profit, in the time even of the late high prices of cattle? By the by, and

and I aſſert it with confidence, not a ſhilling has ever been made by grazing in Eaſt Lothian; indeed it would be unfair to expect it, in a diſtrict where the attention of the huſbandman is uniformly directed to the raiſing of crops of grain. †**** †******'s fortune forms no exception: the money he received from a friend, and paltry fifty pounds a year, ſuppoſed ſaved from his farm of †****, improved at compound intereſt, would amount to a greater ſum than he died poſſeſſed of. †******* †*** once made great gain by half a dozen beaſts he bought at 15s., and ſold in leſs than a year at four pounds:—but then 'twas a flaſh, a meteor that never more was ſeen. This gentleman, with whom I generally ſpent a week very agreeably every ſummer at Cornhill, was the laſt of my acquaintances who wore the good old ſpring boots.

In 1763, Mr Moorhouſe, from Craven in Yorkſhire, was the firſt Engliſhman that had ever been in the Hebrides buying cattle. In the abſence of her huſband, Mr M'Donald of Kingſburgh, he was kindly entertained by Flora M'Donald, who made up for him the ſame bed that, ſeventeen years before, had received the unfortunate Prince Charles. From Sky Mr Moorhouſe went to Raaſay, whither, in three days, Kingſburgh followed him, and, during a walk in the garden, in a fine harveſt evening, they bargained for 1007 cattle, at two guineas a head, to be delivered, free of expence, at Falkirk. Two days before, he had bought 600 from Mr M'Leod of Waterſide, at 2l. 3s. 6d.

About the year 1773, Duncan Campbell, a name well known throughout the Highlands, bought all the ſale cattle in Barra at 1l. 7s. 6d. a head. They were from eight to ten ſcores in number, and many of them four and five years old ſtots. The Barra cattle are amongſt the beſt in the Iſlands; they are good growers, and, throughout Yorkſhire, none of the kind are in higher eſtimation than they are.

In 1782, Mr S****** at C********** was at great pains to procure the beſt and oldeſt wedders. He bought my worthy and much reſpected friend's, Mr Cranſton in Byrecleugh, and ſome other parcels, full four years old, at 10s. 6d. After fattening them till Auguſt, 300 or 400 of the beſt of the whole were ſold to Gregor Drummond at 14s. 6d. Mr Drummond, who is a man of experience and ſhrewd obſervation, boaſts of them to this hour as the beſt graſs fed ſheep that ever were in Edinburgh market.

In 1803, the beſt lots of Highland bullocks were ſold at about 13l; in 1804 at 10l. 10s. I do not include thoſe of the Duke of Argyle and Mr Campbell of Shawfield, between whom there is a ſort of annual friendly conteſt who ſhall ſend the beſt to market. In 1803, Shawfield's were fairly bought by a Berwickſhire

grazier at about 16l. 16s. The Duke's barren cows were bought at Downe, 2d November laſt year, at 15l., and are now in prime condition, upon the paſtures of an Ayrſhire grazier. This prodigious price for barren Highland cows was probably not far, if at all above their value; as a Kentiſh farmer offered 14l. 10s., and much regretted that he did not get them. Shawfield gained the victory this year. His bullocks were bought for Lord Montgomery at 15l. The ſame Kentiſh farmer was in Forfarſhire this ſeaſon, buying cows for his dairy, and hoſpitably entertained for a week by my friend Mr Gairns.

Whether it is owing to the increaſe of the precious metals, the multiplication of Bank paper, or to whatever cauſe, the fact is certain, that corn and butchers' meat are at preſent much dearer than uſual over all Europe.—Sir H** H******* D********, gave a great entertainment in Edinburgh laſt ſpring, to which I had the honour to be invited. Amongſt every delicacy of the ſeaſon, I could not help taking notice of a great profuſion of very fine lamb, there being no leſs than ſeven quarters of it upon the table, at a time when it was ſeldom to be ſeen. Sir H** whiſpered me, that it coſt 12s. a quarter. The price in the market continued for more than a month pretty ſteady at half a guinea. Mr Niſbet of Dirleton tells me, that at Conſtantinople butchers' meat is very bad, and coſts ſomewhat more than 5d. per pound. The Turks eat very little fleſh meat: 20,600 oxen, and 145,000 ſheep, ſuffice for the whole metropolis for a year. The whole muſt paſs through the office of the chief of the butchers, and the number is accurately known. At Paris it coſts 6d. per pound; if *beau*, a halfpenny more. At Archangel it coſts 2d. or 2½d. At Prague 4d., and at Naples 4d.; but there, too, very little butchers' meat is conſumed. I have ſeen more in John Mellis's ſhop on a Saturday, than would ſupply the whole market at Naples. Such prices are very uncommon at theſe places; indeed they have increaſed in nearly the ſame proportion as in Britain; and I am afraid the conſumers every where have too good reaſon to apprehend they will not again return to their ordinary rates. Yet have I ſeen many ſenſible men entertain ſerious fears leſt the prices of cattle ſhould fall very low, and thoſe of grain return to the common converſion, a rate once well known in Lothian, and ſtill obſerved by the High Court of Teinds, in fixing the augmentation of Miniſters' ſtipends. Rather than argue upon a ſubject, which, like this, does not admit of demonſtration, I frequently tell, and never without effect, Mr Maule's ſtory of the milliner at Brechin, who loſt her ſenſes leſt her cuſtomers ſhould take it into their head to go naked.

When I reflect on the late very alarming high price of corn, and

and I may ſay the preſent price of cattle and of fleſh meat, I cannot help going a ſtep farther, to think how much dearer both would have been, but for the introduction of the potato. Sir John Hawkins brought us this invaluable root, in the reign of Queen Eliſabeth; and, ſo early as Shakeſpeare wrote, it was become proverbial, '*Let the ſky rain potatoes.*' (*Merry Wives of Windſor.*) It ſeems, too, to have been then held in great eſtimation, for we find it coupled with a *fat rump*, as appendages of the *Devil Luxury.* (*Troilus and Creſſida.*) Conſidering how well it agrees with our ſoil and climate, the eaſe with which it is cultivated, and the great quantity of nouriſhing food it yields, it is matter of wonder that it did not come ſooner into general uſe. I well remember the time when it was not quite common, but ſhown, as ſomething curious, in the gardens at Panmure and Tynninghame. Indeed it is not yet twenty years ſince it formed part of the crop upon every farm, and, for nine months in the year, part of the daily food of every poor man's family.

Farmers have failed lately for conſiderable ſums, and no doubt your profound ſcholars will thence infer their general proſperity. Mr Pitt inferred the general proſperity of merchants from the failures in the mercantile world. Farmers failed too, in former times, when they were men of little enterpriſe, and the rents, comparatively ſpeaking, low. D**** L***** gave up his farm of B*******, in 1759, becauſe he owed 130l. to Lord Panmure, who was an indulgent landlord to his tenants. D**** retired to a ſmaller farm in Fife, which he was ſoon obliged to quit, as his brother in London grew weary of paying the rent for him. His humour and his fun did not forſake him, even when he had no more than a tide-waiter's pittance to ſupport him, and that v—— ſt———t L*** C*****, to whom he continued attached to his dying day.

P**** C********** in W******* failed for ſome 450l. or 500l. He was a popular man, and his friends bought for him, by ſubſcription, a damned ſulky beaſt of a courſer, which he led about the country, and got plenty of employment for, till Mrs R******** at G********** took ſome umbrage at Peter, and patronized his rival, an Engliſhman of the name of Smith, from Northumberland. Peter declined gradually, and at laſt fell into utter inſignificance.

P**** D****** took the merit of obtaining from the late munificent Earl of Hopetoun, a weekly allowance of two pecks of meal to A***** C*******, his predeceſſor in the farm of A*******. W***** at M*******, thought himſelf happy to get into the barn to thraſh the crop, and to eat in the kitchen of that houſe, the beſt apartment of which had often welcomed him;

him; and the moon has not thrice filled her horn, ſince I obſerved the poor fellow ſnivelling through Haddington market, and paſſing, unknowing and unknown, thoſe very men, with whom, in the days of former years, he had ſpent the merry midnight hours.

The cultivation of turnips upon a great ſcale, has added much to the value of ſoils ſuited to that crop; and, together with artificial graſſes, and early oats, has brought our lands at the foot of the mountains, and thoſe lying upon the ſea-ſhore, nearer to an equality in point of value. In Scotland, turnips are always ſown in drills, which admit of being horſe-hoed. They are as generally ſown broad-caſt in the Southern counties of England. Hand-hoeing is an expenſive operation, however expert the work-people are at it. I have ſeen the turnips in almoſt every county in England, where they are cultivated as a crop; and have no heſitation in ſaying, that, in general, they are far inferior to thoſe raiſed in Scotland; and whether I conſider the weight of the crop, and the expence attending it, or the condition of the ſoil for bearing grain; I muſt prefer ſowing them in drills, and ſo decidedly, that I am ſurpriſed it is not long ere now become univerſal. However, this is but one of many inſtances, where, with their eyes wide open, mankind have ſtopt ſhort upon the very threſhold of perfection. The Romans invented the ſaddle, but never diſcovered the ſtirrup.

Mr F*****, at Park farm in Kent, was, within theſe ſeven years, the firſt who cultivated turnips in drills in that county. He ſows them earlier too than his neighbours, and his crops are rather better than theirs; but the ſoil and climate of Kent are ill ſuited to the growth of this root, ſo that it is rare to ſee what with you would be eſteemed even a middling crop. G***** R***** would plough up the half of them. Pray what became of the action againſt the gardener at W*******, for ſelling kail ſeed inſtead of turnip?

Where, pray, did Mr D***** live? Were his beautiful turnips raiſed in the broad-caſt way? I remember him mentioning a viſit he was honoured with by one of you Eaſt-Lothian farmers.

No more is the culture of grain crops in drills a new diſcovery, as the admirers and followers of Tull and Du Hamel have long eſteemed it. It is common in Arabia Felix; and, as in thoſe eaſtern countries, they never adopt any new modes, it muſt have been ſo for many generations.

I am much pleaſed to hear that my friend P**** B***** is collecting materials for *the Hiſtory and Practice of Stall Feeding*. His

His elegant *Eſſay on Green Crops*, which he has contrived to make equally ſprightly and uſeful, has raiſed very high our expectations of his new performance. I have not been able to trace the practice farther than ſome time between Henry IV. and Elizabeth, though I doubt not his reſearches have ſucceeded better:—

> 'And we ſhall feed like oxen at a ſtall,
> The better cheriſhed, ſtill the nearer death.'
>
> WORCESTER—Henry IV. Part I.

But I muſt be careful not to interfere with his undertaking, and truſt to his good nature to pardon me for recommending to him to write with care, for his work will be read with attention. I can ſtill point out papers written by him in the Weekly Magazine, thirty years ago.

The improvements upon farm machinery, have been greater and more rapid, than may perhaps appear at firſt glance, to one who has not turned his thoughts that way. It is natural that they ſhould eſcape with a ſlight notice of a perſon continually upon the ſpot, and who ſaw them introduced gradually; but at my return, after an abſence of twenty-five years, they ſtruck me with aſtoniſhment.

The Lothians have been ſo long civilized, that no records to which I have had acceſs, nor the moſt diligent inquiries, enable me even to gueſs how diſtant the period is when the farmer's daughters there carried the dung upon their backs to the fields. I pretend not to ſuch a ſtock of knight-errantry, as my friend Mr P******* has ſo often diſplayed, but confeſs I wiſh that I could ſay the creels were not any where allowed to remain long upon the backs of the dear creatures. Truth, however, obliges me to tell, that the diſgraceful practice has ſhocked my own eyeſight, and is not yet entirely extinguiſhed in ſome remote places of Scotland. One of the creels is now in my poſſeſſion; and if you do me the honour to call any time you are in this neighbourhood, I ſhall very gladly ſhew it to you, and am far from averſe to a drawing of it being taken to adorn the next number of your Magazine.

To ſhift the creels from the backs of women, to thoſe of horſes, appears now a natural and very evident ſtep, and, no doubt, originated in the feeling heart of ſome gallant beau, wounded at ſeeing his ſweetheart ſo vilely degraded. But the next ſtep in the progreſs of improvement, the invention of the *ſledd*, and making horſes draw inſtead of carrying, is far leſs obvious. I had for ſeveral years, to no purpoſe, puzzled my brain

brain to imagine what could ſuggeſt a practice that appears ſo abſurd as that of yoking ponies by the tail, which is at this hour to be ſeen in many parts of Scotland, when Lord M*******, to whom I was then on a viſit at D*****, informed me, that as the wild ponies upon the mountains are always caught by the tail, it was not ſurpriſing they thought of yoking them by that member. Two mornings after, he carried me to Crieff fair, where I actually ſaw, what is no doubt familiar to many of your readers, the Highlanders catch by the tail, any poney that a cuſtomer wanted to cheapen. In ſome countries to the north of India, they run to the other extreme, and yoke the oxen by the noſe

Without ſtopping longer at the practices of the heroic times, I beg to recal to your own memory, the four ſcare horſes you muſt have ſeen in every plough, their hair hanging over their eyes, and ſhoed only in the fore feet, with hair *tuggs*, rude *branks*, and *pab* brechams, exerting all their might to drag along a heavy misſhapen inſtrument, with a mallet in its horn, and a ſoam jingling among their feet at every turn; or a couple of ſtarved rough creatures, refuſing to carry 10 firlots or 3 bolls of barley to market in a clumſy cart. Pray, good Sir, think of theſe things, and compare them with a ſober ſteady horſe, decently harneſſed, carrying, with eaſe to himſelf, four times more grain than the wild ſcatter-brained brute of former days.

Great numbers of cattle are yet put to the plough in many parts of Scotland; in Aberdeen and Banffſhires, ten or a dozen are ſtill ſometimes employed at it. It is now almoſt 40 years ſince I ſaw Lord Aberdeen's overſeer ſell a dozen fine large ſtout animals, looſed from one plough, to a drover of the name of Philips, for ſixty guineas and a new gown to his wife: but lands are every where getting up ſo faſt to the two-horſe plough price, that all others will probably ſoon diſappear. This is not a thought of mine, but methinks it the ſtrongeſt recommendation I have yet heard of that powerful inſtrument. It is not unconnected with my preſent ſubject, for me to ſay, and it may amuſe your claſſical readers to be reminded, that in the days of Homer, oxen, perhaps horſes or mules, were yoked four abreaſt in the plough, as is ſtill the caſe in Galloway, Aberdeenſhire, and other counties in the north. See *Iliad*, X. 419. *Ulyſſes and Diomed purſuing Dolen.*

My reſpected friend at H********* was among the laſt in Haddingtonſhire to adopt the two-horſe plough. I bluſh to think how long he perſevered in the uſe of three horſes, leſs defenſible, in my opinion, than that of four.

The

The late T***** R***** was amongſt the firſt to put four bolls of barley into a cart. It is an anecdote conſiſtent with my knowledge, that Mr Law, then recently appointed Sheriff, met the cart, and ſtopped the ſervant to ſend a meſſage to his maſter, importing, that ſo great a load was oppreſſive to the horſes, and might probably break down the cart. †***** †***** in †*** †****** once ſent ten horſes with twenty bolls of barley, to meet David Salmon's carts at Ravensheugh toll-bar. Three horſes of Mr Salmon's carried the whole to his granaries.

Nay, carts themſelves were ſo rare, that, in the beginning of my time, a boy, not older than myſelf, left his charge of cattle amongſt ſtooks in long haltering time, and ran to get a nearer view of one that happened to be paſſing at a diſtance. This carries my mind back to the introduction and common uſe of wheel carriages in this iſland. In Queen Elizabeth's days, 'a coach was eſteemed a ſtrange monſter, and the ſight of it put both horſe and foot into amazement. Some ſaid it was a great crab-ſhell brought from China; and others, that it was one of the Pagan temples in which cannibals adored the Devil.' We find Prince Charles and Buckingham making their Quixotic expedition to Spain on horſeback, and teaching poſt-hackneys to leap hedges. Poſt-chaiſes were introduced into the French armies in the time of Lewis XIV. Thirty-four coaches were taken at the battle of Blenheim. But to come to our own day. I have ſome faint remembrance of all our great men travelling poſt on horſeback to and from London. The Duke of Argyle had, like others, a pair of wide riding-breeches, in which he buttoned the ſkirts of his coat to keep them clean. He generally ſtaid a night, in paſſing, at Gilmerton, or with Lord Milton at Salton-Hall. I have heard my father mention being with Sir Francis Kinloch one evening when his Grace arrived in this plight, whipping up the poſt-boy's horſe, who ſcampered before to ſhow him the way.

Every thing about the farmer, within doors and without, hath kept pace with the improvement upon his implements. He himſelf is better clothed; he wears no home-made cloth now-a-days; every article he uſes is of the beſt Engliſh fabric.

The farm-houſes are neat and clean; ſome of them handſome boxes, elegantly furniſhed. Unqueſtionably, the beſt farm-houſes in the county have been built by tenants at their own expence, with the ſpirit of proprietors, though perhaps, indeed, with more taſte than prudence.

The hinds' houſes and cottages have ſhared in the general improvement. Inſtead of abominable, ſtinking, naſty hovels, which they

they were in the beginning of my time, without a chimney, and with a bit of ſieve and yolk of glaſs to admit the freſh air and the light of day, and an old bonnet ſtuffed with ſtraw to keep them out, they are now pleaſant, cheerful habitations, with caſement windows of a proper ſize.

The ſtables—Good G—! how often have I been alarmed and frightened out of my ſleep by the fighting and ſcreaming of a dozen of horſes ſtanding looſe in the ſame undivided ſtable, and the reſponſes of the courſer thundering in his traviſe in the byre beyond the partition.—I ſicken at the recollection of the byre, and turn from it with diſguſt.

The œconomy of their families, and their modes of living, are changed greatly for the better. Farmers here have been long on this ſide of that ſorry meſs, on which the poor huſbandman ſubſiſts in many counties, and that ham and egg dinner, and rarely a fowl, on which he regales a friend. Their larders are regularly and well ſupplied. My mind is full of antiquity, and ſo frequently recurs to diſtant times, that I am aſhamed of it: it looks ſo like an oſtentatious diſplay of extenſive reading, which I am ſure I was never deſervedly accuſed of. Herodotus informs us, that the Scythians were the firſt to diſcover, what every cat in the country knows now-a-days, that the beſt of the milk riſes to the top. I believe ſome of the more early Greek dialects wants even a word for butter. That the richeſt of the milk comes laſt from the cow, is well known to us all; for who has not heard of *afterings?* But it was reſerved to my much eſteemed and very ingenious friend Dr Anderſon, to aſcertain, by actual experiment, that the laſt of the milk ſometimes contains ſixteen times more butter than what comes firſt. Yet we find that great *blockhead* Polyphemus firſt milking his ewes, and afterwards ſubmitting their teats to the lambs. It is unpardonable that this ſhould ſtill continue to be the practice in many parts of Ayrſhire and in Galloway, where the calf is not permitted to ſuck before the woman has done milking. This matter is ordered better in the Highlands, where the practice is quite the reverſe.

Their hen-houſe and dairy afford at all times an agreeable variety of excellent food. Their tables abound with the neceſſaries of life, are every day comfortably ſerved, and, upon occaſions, ſuch as any man might ſit down to.

Their kail-yards formerly contained little beſides greens, beans, peas, and the more ordinary pot-herbs. Now, we need not look far for regular gardens, with variety and plenty of excellent ſmall fruit, and walls covered with fine trees. Melon grounds and a grape-houſe may be ſeen in more inſtances than one, and in the

the poſſeſſion of perſons whoſe œconomy was never called in queſtion.

Their cellars are well ſtored, though here, but only here, I muſt confeſs the advantage, with regard to both kind and quality, to have been greatly on the ſide of days that are gone. Where can we now find ſuch claret as Blanerne and I once drank at a farmer's near Dunſe, with whom my old friend carried me to dinner? or that which Sir Francis Kinloch '*drew from his dark retreat of many years*'—under W****** H******'s bed, whom he occaſionally viſited at H*****. Theſe I imagine to have been produced only to particular gueſts, and by no means the liquor they ordinarily entertained their friends with; at leaſt not ſince the time it was retailed in Edinburgh at 8d. the pint-ſtoupful. Indeed, till of late, it was not common for farmers to entertain with port wine, or to buy more than half a dozen at a time, and that only when the wife lay in. Nay, I have known a farmer worth thouſands, with difficulty prevailed on by his friends to ſend for a ſingle bottle of ſherry when he found himſelf ſick. The late additions to the price make the expence a very ſerious conſideration; and the practice is rather loſing ground before the habit was ſo long eſtabliſhed as to make the privation of it painful. It is, however, rather upon the increaſe in Berwickſhire, where the tenants are perhaps more expenſive, or leſs prudent, or both. The common liquor after dinner was excellent rum or brandy punch, which has now, in almoſt every family, given place to humble whiſky toddy in great abundance, though the wine decanters are ſtill preſented, and a few glaſſes of that taken at firſt. I have often heard Sir John Halket tell, that when he lived at Goſsford, he bought a hogſhead of claret from Mr Hay in Craigielaw for 10l., or about 8d. a bottle. I am informed, that a good guide can ſtill lead to a friend who produces occaſionally a bottle of good fair *vin de Bourdeaux*.

That charming *two-penny*, too, which I think of with pleaſure at this moment, and for which, in the Torrid Zone, I have often ſighed in vain, lives only in the memory of its friends. Thanks to the puſillanimity of our forefathers, who ſo tamely ſubmitted to the extenſion of the Exciſe laws to this country. Had the general ſpirit of the nation equalled that of the folks at Glaſgow, or of the Edinburgh brewers, we ſhould ſtill be enjoying our favourite beverage.

There are few of thoſe borrowings now-a-days, that I well remember. How often have I ſeen loaves of bread, bowls of ſugar, and cupfuls of tea ſent for upon the ſpur, when a gueſt unexpectedly popped in, and knives and forks and ſilver ſpoons to deck out the table upon a regular invitation. I bluſhed deep when

when I obſerved Mrs —— eye me amuſing myſelf with endeavouring to diſcover, from the cypher, to which of the neighbours the extra ſpoons belonged; for I knew well ſhe had not received more than half a dozen at her marriage.

When the miſtreſs lay in, the whole neighbourhood was inſtantly acquainted by meſſengers deſpatched in every direction. The compliment was returned by frequent inquiries after her's and the child's health, till her month was up. A couple of lines in the newſpapers has ſuperſeded this good old cuſtom; and the large punch-bowl, that made its appearance only at Chriſtmas, ſtands now in ſome old cupboard, uſeleſs and forgotten.

I have not mentioned any article upon which there has been a greater change than their pocket and tavern expence. In the days of *Poſty Johnſton*, the farmer, when he went to Haddington market, did not dine, but, when he came away, took a bottle of ſtirrup ale with ſome burgher friend; and Poſty's Court, now Fairbairn's coach-yard, uſed to be rammed quite full of horſes that got nothing to eat, as ſtill takes place at Gifford fair. Baron Scoughall at Broomhouſe departed from the general practice. He annually gave Mr Fall at Dunbar a cart load of peas-ſtraw for a four gallons bottle of brandy, and a ſtable to put his horſe into when he came to town. The Baron was an arch wag: the bargain was made ſimply for a *bottle*: he went himſelf for the firſt year's, with a four gallons bottle fixed in a wheel-barrow. Mr Fall ſaw he was taken in, but humoured the Baron's joke, and continued the annual payment ſo long as he lived. Ordinaries at Haddington, at 4d. a head, were firſt eſtabliſhed by Willie Grieve and Baillie Shortleſs. Theſe were ſoon eclipſed by 1s. 6d. or 2s. clubs at M'Call's and Gairdner's, which are now, in their turn, ſucceeded by others, at Sang's, Gordon's, Fairbairn's, and Whitehead's, where, for three or four ſhillings, a plentiful dinner may be enjoyed, with a moderate portion of liquor, and a good-humoured converſation.

Sixty years ago, my old friend F***** W*****, who was no ſcrub, uſed to go to Leſſudden fair, and breakfaſt on haggies and cold roaſt lamb, ſpending no more than eightpence upon the journey. It would not now pay the turnpikes. D**** S****** uſed to walk 112 miles to and from Campſie, without ſpending more than twentypence, unleſs when he met with an old ſchoolfellow, and had a debauch with him at Edinburgh.

†**** †****** was amongſt the firſt to go to London, merely from curioſity. He travelled in the ſecond poſt-chaiſe with L*** †******'s ſervant, his Lordſhip and his miſtreſs being in the firſt. †****'s return was rather abrupt, and earlier than his friends

friends expected. I have heard H********* drily remark to him that he seldom talked of this expedition.

Nearly about the same time, J**** D****** in T*********, G***** C********* in W********, and my much respected class-fellow J**** S******* in K*****, allowed themselves the same indulgence. G***** has often told me, and seemingly with much regret, that the journey cost him exactly the profit he made by a score of Highland nolt he bought at Falkirk the October preceding.

This journey is now so common, that it is no longer thought extraordinary, but is quite lost in the blaze of †***** †******'s little tour and journies to P****, in which it is said he has spent hundreds; and yet his name and extravagance never, till now, met in the same sentence.

I have, in these little anecdotes, kept my eye directed chiefly to East Lothian, the county in which you live. There, I have some interest, and there your Magazine is generally read. The inferences, I think, I am fully warranted to draw from every thing I have said, and, from the most serious consideration I am able to bestow upon the subject, are, that capital much greater than formerly is now necessary to enable a farmer to carry on his trade, almost every article, whether of professional, personal, or family expence, being several times its former price; that wealthy tenants can afford to pay high rents; but I must deny the reverse of the proposition, though I freely admit that a smart addition of rent may have the effect to quicken his industry; and that, in the general improvement of all things in this island, farmers are not behind hand; that they have their full share in the increase of our comforts, and are the most thriving class of the community; and those of East Lothian, notwithstanding the high rents they pay, and the senseless outcry against the oppression of their landlords, the most thriving of that class.

I have made bold to dedicate this trifle to the Earl of Haddington, who shines equally in the capacity of landlord to his tenants, or at his table, at which I have sometimes the honour to sit down; and it is to his kind, easy hospitality, that he is indebted for the patronage of this little work, if it is of value sufficient to create a debt.

AN HERITOR.

21*st June* 1804.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the Shortneſs or Total Want of Leaſes in ſome parts of Scotland.

SIR,

IN the few remarks that I am about to make, I take my ground from the firſt query in a ſet of queſtions on general ſubjects of agriculture in the Firſt Number of your very excellent and uſeful Magazine. The queſtion runs in theſe words: 'Whether is it moſt advantageous to the State, that land ſhould be cultivated by the proprietors, or that a right to cultivate the ſoil ſhould be aſſigned, for a limited time, to other perſons, upon certain terms, preſtations, and limitations?'

Among the many topics that have been treated of in your Magazine, I do not recollect to have ſeen this one diſcuſſed in a way perfectly to my mind. It appears to me, that you have done rightly in putting this queſtion on the broad baſis of the ſubject of it being advantageous or diſadvantageous to the *State*; for, as I conſider the land as the capital ſtock of the State, any inquiry into the beſt mode of managing this capital ſtock muſt become doubly intereſting, when ſtated upon this ground, from what it would have been if the inveſtigation had been put on any other.

There are three great ſources of the wealth and proſperity of ſtates,—commerce, manufactures, and agriculture. Of theſe, the two firſt are fleeting and precarious; the laſt only is ſtable and permanent. As a confirmation of this remark, we have only to ſay, that it is long ſince the great tide of commerce has left the cities of Italy and Flanders; but that Lombardy, Tuſcany, and Belgium ſtill continue to be among the beſt cultivated countries in Europe.

I wiſh to ſee this queſtion treated as a moral and political, rather than as an agricultural and economical one. The ſolution of it involves the prime intereſts of the State, and is intimately connected with its ſtability and proſperity. The diſcuſſion embraces the happineſs of the people, the conſequent increaſe of population, the improvement of the country, the multiplication of the means of ſubſiſtence, the increaſe of the ſtock of national wealth, and all thoſe objects which wiſe ſtates, and patriotic princes and prudent miniſters have ſhown the greateſt anxiety to cheriſh and promote.

A change in the ſentiments and purſuits of the people, and of the meaſures of government of a particular country, is ſometimes more quickly brought about than, I believe, is generally imagined.

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A ſingle inſtitution will diſplay the ſpirit of a legiſlature; a ſingle remark or enactment will unfold the character of a prince; and a ſingle literary work will correct or eſtabliſh the opinions of an age. When the older Bernſtorf got a law paſſed, that the Daniſh peaſants ſhould be free, he effected a revolution in the ſentiments of the government of his country. When Henry IV. of France expreſſed a wiſh that all the peaſants and labourers in his dominions might have a fowl on the table on Sundays, he intimated, in a peculiar and laconic manner, that benevolent concern which he took in the proſperity, comfort, and happineſs of the people, which, we have cauſe to know, had not been much the objects of attention of ſome of the princes before his time. When the ever memorable Frederick II., in the early part of his reign, ſeemed only intent on improving the diſcipline of his army, it did not portend that, in the later periods of it, he would labour with ſo much aſſiduity in promoting the agricultural improvements of his country, as to inſure to his name the celebrity of a patriot; and it is only becauſe the more brilliant renown of the warrior eclipſes the modeſt and leſs obtruding merit of the patriot, that he is not as well known in the latter capacity as in the former. When the Britiſh Legiſlature aboliſhed the heritable juriſdictions in Scotland, in the year 1748, and thereby diſſeminated the bleſſings of equal liberty among the people, I believe it was ſcarcely foreſeen that the Lowlands would, in the courſe of half a century, become one of the beſt cultivated countries in Europe. When Mr Malthus publiſhed his Eſſay on Population, he demonſtrated, I ſuppoſe, to the ſatisfaction of every one, that the population of every country will be in proportion to the means of ſubſiſtence provided for the people, without the interpoſition of ſome obvious and powerful checks.

I conſider this queſtion to be of ſuch magnitude, that if I had time and talents for the proper diſcuſſion, I would introduce it with the words of Monteſquieu, when he enters on the ſubject of commerce—'Fain would I glide down a gentle ſtream; but I am hurried along by a torrent.'

As, in the preſent circumſtances of Great Britain, I conſider it entirely impoſſible that the whole of the lands can be cultivated by the proprietors; ſo the anſwer to the latter branch of the query naturally points out itſelf—'that a right of cultivation, for a limited time, ſhould be aſſigned to others.' Large tracts of land can, in no country whatever, be cultivated by the proprietors, but in thoſe ſtates where the great body of the people are in the condition of villanage or ſervitude, as in Ruſſia, *cidevant* Poland, and other kingdoms in the north of Europe. This mode of cultivation, then, cannot poſſibly take place in Britain, where the people are free. The

only other way, in ſo far as occurs to me, of large tracts of land being cultivated by the proprietors, is in the caſe of newly diſcovered countries, as America, New South Wales, &c. where the mother country, or dominant ſtate, makes grants of portions of land to individuals, for the ſake of clearing it, and where the grantees continue for a certain time to cultivate the allotments made to them, by themſelves and their families, and ſometimes by ſlaves. This mode of occupation and cultivation does not apply to the preſent ſtate of this country.

If it appears, then, that the beſt mode of cultivating land in Britain, is by aſſigning the right of cultivation to others, for a limited time, a natural queſtion occurs, What ought to be the period of duration of this time? But, inſtead of taking it upon me to determine what is the proper and moſt advantageous endurance of a leaſe, (which is not my preſent purpoſe), and whether it ought to be for 9, or 19, or 31, or 38 years, or for any longer, or ſhorter, or intermediate period, I am rather inclined to be of the opinion, that, in different circumſtances, the period of aſſignment may be advantageouſly made of longer or of ſhorter duration.

But in one point I am deciſively fixed; which is, 'That the cultivator ſhould have a certainty of poſſeſſion of the land' for ſome reaſonable given ſpace of time.' And this brings me to what I had chiefly in view in theſe obſervations, namely, the ſhortneſs, or total want of leaſes which, I underſtand, prevails in ſome diſtricts of Scotland, and which, as it appears to me, muſt operate as an effectual bar to agricultural improvements, or good management of any ſort, ever getting into theſe diſtricts.

From what I have obſerved, I now conſider the opinions and practices ſanctioned or condemned in your Magazine as the teſt of juſt reaſoning, and of good or bad management, in matters of rural economy, in Scotland. And I have ſaid, on another occaſion, that I do not conſider theſe intimations of approbation or diſapprobation ſo much calculated for the opulent, and independent, and enlightened farmers, in the well cultivated counties, as for the poor, and oppreſſed, and ignorant cultivators of the ſoil, in the remote diſtricts: So I hope you will take theſe latter under your ſpecial protection, and lend your powerful aſſiſtance to meliorate their adverſe and much to be lamented condition.

At the firſt bluſh of the propoſition, one would imagine that there needs not a ſingle word of argument or illuſtration to prove, that where the cultivators of the ſoil have no certainty in the poſſeſſion, they will never be diſpoſed to pay any attention to amelioration. But, on the contrary, where their right of poſ-

ſeſſion

ſeſſion extends only from year to year, from crop to crop, they will never have any thing farther in view, than to take as much from the land as it will yield for the time, regardleſs of the ſtate into which it is brought, or in which it is left. Thus, wherever the cuſtom of very ſhort leaſes, or of no leaſes, prevails, we may lay our account that the country will continue a dreary and barren waſte in perpetuity. The granting of leaſes, then, muſt be evidently the advantage of the proprietor, as well as of the public. Indeed, I conſider that it is to the permanent leaſes that were begun to be given ſoon after the beginning of laſt century, that we owe the foundation of the great improvements that have been ſince made in Scotland.

When the late Empreſs of Ruſſia, in the inſtructions that ſhe gave to the commiſſioners appointed to frame a new code of laws for the Ruſſian empire, wrote with her own hand, 'that agriculture could never proſper in a country where the cultivator poſſeſſed no property,' ſhe raiſed herſelf above the level of her ſex, and above the ideas of the people whom ſhe ruled over. With certain modifications, I fear that the enlightened obſervation of the Empreſs may apply to the people in ſome diſtricts of Scotland at this day. Without property, or the means of acquiring property, I ſuſpect that their condition is not raiſed many degrees above that of the peaſants in Ruſſia. Kept in a ſtate of perpetual ſubjection and dependency, I doubt their enjoyment of liberty conſiſts too much in the name.

I am not by any means ignorant, that the evil of which I here complain, of ſhort leaſes, or the total want of leaſes, prevails on ſome of the largeſt eſtates, and in ſome of the beſt cultivated diſtricts in England. And although I am clear that the practice muſt be attended with very bad conſequences even there, yet, as there is a greater maſs of wealth in the hands of the body of farmers in England, than there is yet in the hands of thoſe in the mountainous and remote diſtricts in Scotland, the pernicious cuſtom does not appear with ſo much promineney in the one country as in the other. But, on the other hand, we uniformly ſee, that where a ſufficient length of leaſe is given, it immediately operates as a ſtimulus to the moſt ſpirited and ſubſtantial improvements; as inſtances of which, I need only mention thoſe made by the farmers on the Duke of Norfolk's eſtate in the neighbourhood of Sheffield in England, and thoſe made by the farmers on the Duke of Queenſberry's eſtate in Peeblesſhire in Scotland.

I deny not, that on ſome eſtates, both in England and Scotland, the tenants continue to poſſeſs, at leaſt very lately did poſſeſs, the lands without leaſes, from year to year, and yet ſeem

contented and happy, conforming themſelves generally to a ſimple mode of agriculture, adopted by themſelves, or preſcribed by their landlords; of which cuſtom, examples may be given of the farmers on the eſtate of a great Engliſh nobleman, in one of the moſt northerly counties, (Duke of Northumberland), and of thoſe on the eſtate of the preſent Member of Parliament for Aberdeenſhire. But although theſe examples may be ſtated in favour of a very pernicious practice, yet I am fully of the opinion, that the ſanction given ariſes almoſt ſolely from the excellent characters of the reſpectable nobleman and the benevolent gentleman alluded to.

Although theſe, and perhaps other inſtances of the ſame ſort, may be given, yet it cannot be denied that the cuſtom is a bad one; and, as ſuch, I wiſh to ſee it totally eradicated. I deſiderate ſuch a thorough change of ſentiment in the minds of people in general, that no landlord would let, and no tenant would take his farm, but upon a permanent leaſe of a certain reaſonable endurance. What I contend for, in this caſe, is the eſtabliſhment of a general maxim; and although this may appear difficult to be effectuated without poſitive law or inſtitution, yet we have ſeen revolutions in ſentiment and practice ſometimes brought about by a ſingle ſalutary regulation. When a law was made allowing an heir of entail to get allowance of the expence of certain improvements made on the eſtate in tail, there was a general rule laid down. When the Court of Seſſion in Scotland paſſed the act of ſederunt reſpecting the removal of tenants from their farms, and that act not having been interfered with by the Legiſlature, they laid down a general rule. When, ſome years ago, Lord Mansfield and the Court of King's Bench decreed, that whenever a negro ſlave comes to England he ſhall be a free man, the Court eſtabliſhed a general maxim. When, a few months ago, Lord Ellenborough and the ſame Court found, that a military volunteer may reſign, they fixed a general rule for all volunteers whatever. In like manner, I ſay again, that it is a general maxim that I wiſh to ſee eſtabliſhed; and although it may be difficult to bring this about without poſitive inſtitution, yet, by frequently inculcating the pernicious conſequences of the oppoſite practice, the wiſhed-for reformation may perhaps in time be effectuated.

With the exemption from tithes and poor-rates; with the ſtipulations in his leaſe, ſupported and ready to be enforced by law; and with a compulſitor within his power for the diviſion of lands lying in common, joined to the general benevolence of landlords, the Scotiſh farmer, perhaps, enjoys as many advantages, clogged with as few drawbacks, as the cultivator of the ſoil

ſoil in any country whatever. Of the baneful practice of withholding leaſes, or granting them of very ſhort duration, which, however, only prevails in certain diſtricts of the country, he has perhaps chiefly to complain. But this evil is ſo great, that it ſtrikes at the root of all improvements, breaks the ſpirit of the people, keeps them in perpetual poverty and dependency, and, as it were, 'freezes the genial current of the ſoul.'

Could reſtrictive injunctions be impoſed upon the people in a free country, I know of no ſubject that ſo much demands the interference of the legiſlature as this, of compelling the proprietors of land to give leaſes to their tenants, of certain duration at leaſt. The improvement and proſperity of the country are concerned in it. The increaſe of the national produce, upon which national proſperity ſo much depends, reſts upon it. The affectionate regard of the lower orders of the community towards the higher, which the preſent times ſo much require, hinges upon it. Never will a tenant think of ameliorating his farm when he has no certainty of poſſeſſion, beyond the crop preſently among his hands. Never will he lay out money, if he has it, upon improvements, of which another may reap the fruit. Never will he deviſe ſchemes of varied ſucceſſions of crops, which, at the diſtance of ſeveral years, may repay him for the expenditure and induſtry of the preſent, when he is uncertain of enjoying any of theſe crops. Never will the face of the country be improved, when the cultivators have no intereſt in the improvement, but perhaps the reverſe; and till a reformation is brought about in this reſpect, we may lay our account that the ſame poverty and miſery will continue to prevail among the tenantry where the practice exiſts, as prevailed generally among the tenantry of Scotland, in the end of the ſeventeenth, and in the beginning of the eighteenth centuries, of which Fletcher of Saltoun, Law, and other writers of that time, ſo feelingly complain; or which, we are told, prevails among the loweſt deſcription of tenants in Ireland at this day; and that we know prevailed among the whole body, nearly, of the farmers in France, before the revolution.

As well may it be ſuppoſed that a country will be equally well cultivated by ſlaves as by free men, as to ſuppoſe that it will be equally well cultivated by thoſe who have no intereſt in the ſoil, as by thoſe who have. In the firſt inſtance, the labour is enforced by taſkmaſters, and the fear of puniſhment; in the other, it is performed from a ſenſe of duty, and a feeling of intereſt. In the one caſe, more bodily ſtrength is exerted; and in the other, prudence, ſagacity, ingenuity, and the other nobler faculties of the human mind. In the former caſe, compulſion is the only ſtimulus; in the latter, the moral ſentiment operates.

We have Lord Lauderdale's ſanction, were it wanted, for ſaying, that the increaſed produce of land, occaſioned by the wiſe application of labour and capital, is that branch of the property of ſociety which appears capable of unlimited increaſe; and, the more it is augmented, the more will the human ſpecies abound in opulence and in number: But never will this labour and capital be applied, without a certainty, at leaſt a proſpect, of return.

Thank Heaven, the evils complained of exiſt only in certain diſtricts of the country. The opulent and enlightened farmers over the greateſt part of the Lowlands of Scotland, are too wiſe to riſk their capital, and exert their induſtry, on a precarious tenure. It is only in the Highlands, and leſs enlightened parts, that the grievance prevails to an alarming extent. But as it is certainly to be wiſhed that pernicious practices were eradicated from every part of the country, and that the tide of proſperity might flow with an equal current in every direction, I know of no means whatever that could contribute ſo generally to this deſireable purpoſe, as that of granting to the cultivators of the land a certainty of their poſſeſſions. No matter whether theſe poſſeſſions are of larger or ſmaller dimenſions, of better quality, or of worſe; ſtill let the poſſeſſors have a certainty of poſſeſſion. The extent of farms is a different matter, which is not at preſent taken into conſideration.

In tracing back the hiſtory of Scotiſh agriculture for a century paſt, we ſee that all the moſt eminent and ſucceſsful improvers gave leaſes of their lands as ſoon as improved; as may be inſtanced in the caſes of Mr Cockburn of Ormiſton, Lord Finlater, Lord Strathmore, and others. At a later period, Mr Fairlie of Fairlie, on his own eſtate, and on the eſtates of the Earl of Eglintoun, and all the great improvers of the preſent day, have followed the ſame plan. Wherever leaſes of reaſonable endurance prevail, we ſee the tenants wealthy, induſtrious and thriving; and wherever they are withheld, we ſee the tenants poor, indolent and ſtationary. We have only to caſt our eye over the ſtatiſtical accounts of Scotland, and the county ſurveys both in England and Scotland, to ſee that want of leaſes, or very ſhort leaſes, are uniformly ſtated among the great bars to improvement.

Gladly would I ſuppoſe, that the evil of which I complain exiſts not to a wide extent; but of its actual exiſtence I am afraid there is not room to doubt. I have ſometimes endeavoured to amuſe myſelf with deviſing plauſible reaſons, that could induce the proprietors of land to decline giving leaſes to their tenants. I have thought of the idea of dependency, in keeping a large body of people more in ſubjection to their will; but ſurely this motive

tive can never weigh in the preſent day, when it is known that the firmeſt tie of attachment, and even of ſubjection, conſiſts in affection, and a ſenſe of gratitude for favours received. Were we to endeavour to account for the practice, on the ſcore of intereſt, we would be equally wide of the true mark, as it can certainly never be the intereſt of any man to keep thoſe connected with him in a ſtate of poverty and miſery. A tenant will ſurely give more rent for his farm, when he has a leaſe for a reaſonable time, than when he holds it only from year to year.

But from whatever conſiderations the practice may ariſe, of all the general ſubjects that I have ſeen treated of in your Magazine, it appears to me that this is by far the moſt extenſively important. In vain will Lord Kaimes have exerciſed his ingenuity in deviſing the proper conditions of an equitable leaſe, if landlords are determined not to grant any leaſes at all. In vain will Sir John Sinclair have done more to inveſtigate the ſituation, and to ameliorate the condition of the poſſeſſors and cultivators of land, than any other man preſently exiſting in the Britiſh dominions, if the tenants on the eſtates, perhaps in the near neighbourhood of his own, ſhall at this day be occupying their farms at the good-will, and by the ſufferance of their landlords. In vain will Sir William Pulteney have made the patriotic foundation of a profeſſorſhip of agriculture, if a large portion of the people are kept in a political ſituation unable to avail themſelves of the inſtructions of the profeſſor. In vain ſhall we boaſt of the favourite names of David Hume and Adam Smith, and other writers on political economy, who have fixed the principles of the proſperity of ſtates on a ſurer baſis, than the writers of any other country whatever, if their maxims have not had influence to induce the proprietors of land to grant a certainty of poſſeſſion to the cultivators, without which no good cultivation will ever take place. In vain ſhall we talk of the ſuperiority of our agriculture, when ſome of our farmers are in a more uncertain, and leſs enviable condition, than the *adſcripti glebæ* on the lands of the feudal barons, or the ſerfs on the eſtates of the boyars in Ruſſia. Finally, the magnificent ſchemes of government for the improvement of the Highlands will be unavailing, if, when the people have got ſome capital put into their hands, they cannot have the opportunity of inveſting that capital on a ſure and firm tenure.

It appears to me, then, that till this great evil is remedied, you and the ingenious correſpondents in your Magazine may long write on particular branches of agriculture with leſs general effect. You may diſcuſs the nature and qualities of ſoils, and of manures; you may recommend one rotation, or another rotation of crops; you may expatiate on the advantages of encloſing, and draining,

draining, and cleaning land; you may recommend the ſyſtem of cattle-farming, or of ſheep-farming, and give the preference of one breed of black cattle or of ſheep to another; you may diſcuſs the ſubject of the proper ſize of farms, and of labouring with horſes and with oxen; you may inculcate the peruſal of the works of all the writers on agriculture, from Virgil and Columella down to Mr Arthur Young and Dr Anderſon, not omitting the numerous publications that are every day iſſuing from the preſſes of Germany, France, Italy, and other countries; and you may do all theſe things with a very diminiſhed effect. But till you have obtained for the poſſeſſors and cultivators of the land, a certainty of enjoyment of their poſſeſſions, at leaſt for ſome reaſonable determined ſpace of time, you will never be able to give the agriculture of Scotland that real and ſubſtantial aid, which I truly believe it is your wiſh, and the intendment of your Magazine to give. Were it proper to mention particular names, I would ſay that this was a fit ſubject for the talents and ingenuity of Mr Findlater; as, from the ſpecimens which that gentleman has already given, he ſeems well qualified to write on both rural and political economy. Or, if Dr Skene Keith would undertake the diſcuſſion, he is able to combine the comprehenſive views of the philoſopher with the minute attentions of the agriculturiſt.

Removed to a great diſtance, as I now am, from the objects on which I have endeavoured to ſpeak, and engaged at preſent in purſuits of a very different nature, it is impoſſible that I can have exhauſted a ſubject connected with the firſt intereſts of ſociety. All that I pretend to, on this or any other occaſion, is to offer a few ſuggeſtions, which may be enlarged and improved upon by ſome of your correſpondents who have more leiſure, and are better qualified for the taſk. It appears to me that a portion of your Magazine could not be applied to a more valuable purpoſe, than the elucidation of the ſubject to which I have endeavoured to draw your attention. And if I ſhall be fortunate enough to excite ſuch a ſpirit, I ſhall account the time and pains neceſſary for throwing together theſe few thoughts and ſuggeſtions well beſtowed. I am yours, &c.

AMICUS SCOTIÆ.

London, 10th July 1804.

TO

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the Uſe of Steam in Drying Malt, Grain, and Potatoes; with Obſervations on Highland Potato Huſbandry.

SIR,

I BEG leave to communicate, through the medium of your valuable Publication, the reſult of ſome experiments I happened to try ſeveral years ago, a ſhort ſketch of which was communicated to the Board of Agriculture, ſoon after its inſtitution; but of which no notice was taken.

It occurred to me, that barley might be made to germinate, and to form malt, by the heat and moiſture of ſteam; and that the malt already made might be dried by the heat of the ſame ſteam which moiſtened and cauſed germination on a new quantity of barley.

To aſcertain this point, I procured a ſmall tin-boiler, with a long tube extended from its top, ſimilar to a ſmall ſtill. The boiler had a ſmall tube inſerted in its ſhoulder, by which water might be introduced, and cloſed by a cork. A barrel had a ſquare aperture cut in its ſide, about three inches above its bottom, and accurately cloſed by a ſtopper of wood. The other end of the barrel was taken out, and, in place of wood, it was accurately cloſed by a tinned plate.

The barrel being placed upon a pedeſtal, a quantity of barley was introduced by the aperture already deſcribed, and equally ſpread upon its bottom, to the depth of near three inches. The boiler, half filled with water, being placed upon a ſmall furnace, had the end of the long tube extending from it inſerted in the bung-hole of the barrel, and made tight by wet paper.

Soon after the water began to boil, the barrel was filled with ſteam, and the tinned plate upon its top became hot. Upon this was ſpread a quantity of wet malt, which was occaſionally ſtirred, and it ſoon dried into what the brewers call *pale malt*; that is, malt perfectly free from calcination, which gives a brown or porter tinge to the ale.

Meanwhile, the barley in the bottom of the barrel became thoroughly ſoaked by the moiſture, which dropped from the tinned plate above. It ſwelled; but, though I tried ſeveral parcels of the ſame grain, it never was obſerved to germinate.

I afterwards learnt, that this grain had been much injured by a wet harveſt, and that it had been kiln-dried to make it keep. Whether its want of germination was owing to this cauſe, or to its excluſion from oxygen, I cannot pretend to ſay; for at

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that time the power of oxygen, in ſtimulating the germination of ſeeds, was not generally known.

It afterwards occurred, to try whether potatoes might not be dried by the heat of ſteam, ſo as to preſerve all their principles unchanged.

For this purpoſe a few of them were boiled, their ſkins taken off, and bruiſed by a blunt ſtick, uſually employed for that purpoſe. The bruiſed potatoes were equally ſpread upon the tinned plate already deſcribed, and frequently ſtirred, while ſteam was blown into the barrel.

In drying, the potatoes were conſiderably reduced in bulk, and concreted into ſmall hard bits of various ſize; but few exceeding the ordinary ſize of peas. Theſe bits were pounded in a mortar, and reduced to a meal or flour, which retained the natural taſte of the potato, only more concentrated.

Parcels of this meal were expoſed in rooms without fire, and did not exhibit any ſenſible tendency to abſorb moiſture, or to become damp; while, in the ſame places, oat-meal, ground from oats hard dried, became ſenſibly damp, and increaſed in weight. Other parcels were repeatedly expoſed to very intenſe froſt, and as long as my obſervations were afterwards continued, they never exhibited any ſenſible alteration of quality, in conſequence of the froſt.

Theſe experiments were made during the winter of 1794-5, when the ground was covered with deep ſnow; and, as I left the place early in ſpring, I had no opportunity of trying whether other roots, or plants, might not be preſerved, by drying them with ſteam, as well as potatoes; nor has any opportunity of following out theſe experiments ever occurred to me ſince.

Perhaps the failure of germination in the barley may have been cauſed by the extreme cold which prevailed while the experiment was made. My idea was to ſubject the barley to a warm ſummer ſhower, from the ſteam condenſed on the tinned plate above it, and to preſerve its heat, as nearly as I could, from 100° to 150°, which is the heat exhibited by good ſoils, even early in the ſeaſon, after expoſure to the ſun's rays. But however I might manage matters during the day, I always found my barley nearly frozen next morning. Perhaps, in an apparatus of large dimenſions, where ſudden variations of temperature cannot take place, the experiment might have ſucceeded better.

But whatever cauſe may have obſtructed the germination of the grain, I flatter myſelf that ſome uſeful reſults may be deduced from the experiments I have attempted to deſcribe.

1. That the beſt *pale malt* for making beer, may be produced, and only produced, by drying it with ſteam.

2.

2. That all grain which is reserved for seed, or which is afterwards intended to be malted, should have its dampness corrected, and be rendered fit for keeping, only by the heat of steam; because it is well known, that exposure to a naked fire, however cautiously it may be managed, destroys a great part, if not the whole, of the embryo germs of seeds.

3. From the slight opportunities I had of making observations, it appeared that meal, from grain over-dried, after a short exposure, more greedily absorbed moisture, and sooner became damp, than meal from grain that had been moderately dried. Hence that drying by steam is preferable to any other mode, for grain that is to be reduced into meal.

4. It appears certain, that potatoes may be reduced into meal, or flour, capable of being kept any length of time, or of being exported to any part of the world. In place of the pestle and mortar I employed, they may be ground in any ordinary mill, or even converted into the finest boulted flour, without bran or residue; because what does not pass through the boulter, can be returned into the stones, and ground over again. Such flour may be made into cakes, puddings, porridge, &c. &c.; or, as has been ascertained by experiments with bruised potatoes, by having a certain proportion of wheat flour added, it may be made into the finest fermented loaves. These experiments have only been made with bruised potatoes; but as, in drying by steam, they did not seem to lose any thing but water, and the only effect was a concentration of their principles, it seems probable that a smaller proportion of wheat flour may be sufficient to make them ferment into bread, than is necessary to be added to the potatoes when only bruised.

But I have an utter aversion to the regions of conjecture, and do not wish to go an inch beyond the limits of ascertained facts.

In my many peregrinations through the Highlands and Isles, I have often been forced to lament, that our Highland Society did not know more of the country they undertook to improve. With them, the cry was improve! improve! without considering whether their improvements were either expedient or practicable, in the existing situation of the country. In place of improvements, they should, in my humble opinion, have begun with acquiring an exact knowledge of soils; the means which nature has provided for their fertilization; the actual state of agriculture; and the manners and dispositions of the people in the extensive district they undertook to improve. Such knowledge cannot be expected from a native of the Highlands, but must be derived from strangers, who have an eye to discriminate, and a judgment to appreciate. Had such knowledge of the Highlands and

Isles,

Iſles, their exiſting ſtate, and natural reſources, been laid before the public, it would have been eaſy to ſuggeſt improvements that were not only expedient but practicable.

I ſhall only adduce the premiums iſſued for raiſing potatoes, in the lazy-bed way, on moor or moſs, as an inſtance how far the exertions of the Society have been miſapplied.

The Society, having laid down no rules, or plan, by which the work ſhould be conducted, each perſon contending for their premiums, proceeded, as whim or conveniency prompted him, to mangle and abuſe; and they have actually rendered unfit for ſubſequent cultivation, conſiderable tracts both of moſs and moor, on the mainland and iſlands. Inſtead of running ditches, to take off the water, they piled up their lazy beds, ſo as to raiſe them above the water; and formed them in ſuch croſs and whimſical directions, that the land cannot now be cultivated, without undoing all they have done, and expending much more than it is worth. It was in vain that I remonſtrated with many of them; pointed out the lines in which they ought to have run drains, before they broke the ſoil; and ſhowed how they ought to have formed their beds in ſtraight parallel lines, ſo as to render the land capable of future aration. I alſo tried to convince them of the abſurdity of piling up ſuch high mounds of earth, where they had only a few miſerable tufts of potatoes on the top of the mound, while the intermediate ſpaces were filled with water, like canals. It was in vain, too, I repreſented the benefit that would reſult from laying ſhell-ſand upon their lazy-beds, which was often contiguous to them, and equal, in the proportion of its calcareous matter, to the beſt lime. 'The Society had ſaid nothing about theſe matters,' was a *tickler*, a *knock-'em-down*, which rendered all my arguments ineffectual. This ſhews, that when people are in the humour of travelling with a bandage about their eyes, they may happen to do harm, even with the beſt intentions.

The potato delights in a looſe, friable, though dry ſoil, and in a moiſt climate. From the iſland of Arran to the Orkneys, including the Hebrides, this root, with a few exceptions where the ſoil is unfavourable, attains a degree of perfection ſeldom equalled in other places. In this extenſive tract, the modes of culture are very various; and the beſt may eaſily admit of improvement. But here potatoes are ſeldom an exchangeable commodity, becauſe they are not within the reach of markets. Every family endeavours to raiſe as many as will ſupply its own conſumption, and no more. But were the practice of drying them on ſteam-kilns, in the way I have deſcribed, introduced; as the quantity that may be raiſed in theſe regions is unlimited,

ſo

ſo they might export vaſt quantities of nutritious vegetable food, for the ſupply of our cities, our navies, and the Weſt India market. It does not ſeem neceſſary to grind the potatoes into meal in theſe regions, as they can be ground where they are to be uſed; and, from my experiments, it appeared that the dried bits kept fully as well as the meal.

The quantities of driſted ſea-weeds (*fuci*) in theſe regions, is immenſe; but at preſent they are only collected and applied at the time of ploughing and ſowing. I have ſeen ſuch quantities blown on ſhore during ſummer, that their putrefaction on the beach infected the air, to a great diſtance, with peſtilential vapours. Were the people inſured in a certain vent for their produce, they would ſee the propriety of forming them into compoſts with moſs, which compoſt would be applicable to every ſoil but moſs; or they might compoſt them with earth or clay marl, which abounds in many places, which would make an excellent dreſſing for moſs, or any ſoil. As ſhell-ſand and limeſtone abound in theſe countries, they may either be applied directly to the ſoil, or mixed in the compoſts. When the interior country is laid open by thoſe roads which are forming by the aid of Government, excellent ſhell marl will be found in many lakes and ſwamps, which may be applied to the improvement of land. There compoſts may be made with the dung of cattle; and compoſts, when judiciouſly made and applied, always produce potatoes of a better quality than the putreſcent manure, when applied by itſelf.

The potato is an excellent plant for bringing moſs, or moors of a friable ſoil, into cultivation; and the firſt crop generally pays all the expence, with profit. As it thrives ſo well in theſe countries, I have no objection that the extenſion of its culture ſhould be ſtimulated by premiums from the Highland Society, provided they be ſo conducted as not to ſet on the people to mangle and abuſe the land, and render it good for nothing afterwards. But I ſee no utility in forcing the production of potatoes, in countries where they are not convertible into money; and where they can only be conſumed by the people who raiſe them. Were their weight and bulk reduced, and their ſubſtance rendered capable of being preſerved any length of time, by ſteam kilns, their production might be ſtimulated by premiums, or otherwiſe, to an unlimited extent.

Were it not to encroach too much upon your time, I could ſuggeſt a plan of a ſteam-kiln of this ſort, covered with thin ſheet iron, which would effect the objects here deſcribed, with the ſmalleſt poſſible expenditure of fuel. I am confident ſuch kilns would conſume much leſs fuel than the common fire-kilns; and

and that they might be advantageouſly uſed, not only to dry potatoes, but pale malt, and every ſpecies of grain.

I am, &c.

May 14th, 1804. PROJECTOR.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Reply to the Letter of A. G. on the Subject of Thraſhing Machines.

SIR,

As you ſeem to think that ſome notice ſhould be taken of the letter ſigned A. G., inſerted p. 302, laſt Number, I ſhall, without ceremony, preſent a few remarks thereupon. The thraſhing machine is undoubtedly the moſt important implement poſſeſſed by the corn huſbandman; conſequently a few minutes of a rainy harveſt day cannot be better employed than in examining what is ſaid by Mr A. G. concerning the invention.

In my two former letters, Vol. IV. p. 128 and 499, I commented upon Mr A. G.'s communication, Vol. III. p. 428, and gave a conciſe hiſtory of the thraſhing machine, which is not controverted by him in any material particular. He appears, however, to view the hiſtory as incomplete, becauſe it is chiefly reſtricted to an account of the endeavours uſed by Mr Meikle to bring it to perfection. Now, allow me to ſay, that as almoſt every thraſhing machine in uſe, ſo far as my knowledge reaches, is conſtructed agreeably to the principles of the one originally deviſed by Mr Meikle, I humbly preſume that a detail of the meaſures uſed by him muſt be held by every impartial perſon as conveying a ſatisfactory hiſtory of the invention. I mentioned Mr Meikle's firſt attempt to thraſh by a number of flails, which confeſſedly was unſucceſsful. I pointed out the cauſes which led him to think that thraſhing might be accompliſhed by fixing ſtrong beaters on a large cylinder or drum, inſtead of having looſe and naked ſkutchers, as had been attempted by others; and deſcribed the ſcene or place where the operation was originally executed, and carried ſucceſsfully into effect. If I am right in theſe things, and the contrary is not directly maintained by your correſpondent, I would gravely aſk him, what he wants to be at? Does he want a hiſtory of the conſtruction and erection of every individual machine now uſed in Britain? If he does, then to be ſure my account muſt be viewed as defective; for a book bigger even than Rapin's Hiſtory would not be of ſufficient ſize to contain one half of what, under this circumſtance, would

would be required. But pray what has the conſtruction and erection either of his machine or mine to do with the hiſtory of the invention? Machines may differ in ſize, may have long or ſhort cylinders, ſmall or large wheels and pinions, be worked by one horſe or ſix, by wind or by water, be furniſhed with the appendages of rakes or ſhakers, and with one or even two pair of fanners, or with none at all; ſtill, after all, notwithſtanding theſe differences in ſhape and ſize, the original principle may be retained. The old Northumberland machine which I mentioned, is altogether laid aſide. Mr Stirling's, in Perthſhire, may be preſerved, for all that I know; but no perſon can with truth make ſo much as a compariſon betwixt it and the one afterwards invented by Mr Meikle. That Mr Meikle invented the firſt machine which could be profitably uſed, is unqueſtionably true. I admit that Mr Ilderton, Mr Oxley and Mr Stirling, had previouſly made attempts to conſtruct machines, and am ſincerely diſpoſed to beſtow every manner of praiſe upon their laudable endeavours, though I cannot allow them to have ſucceeded. I well remember the ſtate of the public mind when Mr Meikle's invention was advertiſed in 1788, by his friend Mr Walter Roſs. In fact, many people viewed the whole as a fiction, while others conſidered it as a well-meant endeavour, that could not be realiſed; and I muſt place myſelf among this claſs, having long remained ſceptical concerning the promiſed advantages. Here I may clear up a miſtake fallen into by Mr A. G. I am not a practical mechanic, and know little of theory either. I am what my ſignature ſpeaks me to be; and any little knowledge which I have about thraſhing machines has been gathered by ſedulouſly attending to their operations.

As you have already elucidated what took place betwixt Mr Meikle and Mr Raſtrick, it is unneceſſary for me to ſay one word upon that ſubject; except that, in making ſuch looſe and unfounded allegations, even though borrowed from a printed work, your correſpondent did not add much to his own reputation. Something of the like nature may be ſaid reſpecting that part of his communication, wherein he declares, that I have taken the trouble of inventing a machine for him. To what part of my letters this relates, I am at a loſs to diſcover; for every paſſage, quoted as his, ſeems to be correctly given. I ſaid, in my firſt letter, that his *data* were inſufficient to calculate the effects of any machine; and proved by figures, the accuracy of which I preſume he will not call in queſtion, that his ſecond machine behoved to thraſh a leſs quantity than the one firſt conſtructed, becauſe it was endowed with leſs velocity. In my ſecond letter, I animadverted upon an improvement ſuggeſted by him, which

I conſidered to be of little utility; and maintained that no benefit could be derived from knowing the dimenſions of wheels and pinions, unleſs the velocity of the moving power was alſo explained. In doing theſe things, I *invented* no machine for him; I merely reaſoned upon the particulars furniſhed reſpecting thoſe he had conſtructed and erected; and whether I reaſoned correctly or not, cannot be aſcertained from the letter now before me. In a vague way, he ſays, that a mill built by theory may fall ſhort of expectation when put into practice; the truth of which, as a general poſition, I readily allow. Nay more, it would not be difficult to bring proofs of its rectitude, even from the account given by your correſpondent of his own undertakings.

With regard to the comparative utility of ſmall and large machines, I believe there can be but one opinion among thoſe who are diſpoſed to inveſtigate the buſineſs with preciſion. Perhaps ſmall machines, in certain caſes, may be uſed with ſome degree of ſucceſs, particularly if barley and oats are only cultivated, or where the ſtraw is ſhort and ſoft; but as ſhakers and fanners cannot be annexed to them, at leaſt when worked by one horſe, I muſt abide by the opinion formerly given, reſpecting their general inutility. I put it to your correſpondent, whether he thinks the grain raiſed upon a large corn farm could be thraſhed cheapeſt with one machine worked by ſix horſes, or with ſix ſmall machines each worked by one horſe, and requiring the number of hands he deſcribes. This queſtion brings the buſineſs into narrow bounds, and, if anſwered in favour of the large machine, as I preſume muſt be the caſe, ſettles the diſpute. In fact, with large machines, corn is thraſhed and cleaned at very little more expence than is incurred by the cleaning proceſs when ſmall machines are employed; and granting, for argument's ſake, that in both caſes it is equally well thraſhed, ſtill the ſaving in ſhaking and cleaning is an object of conſiderable magnitude.

I do not think I was wide of the mark when I ſtated, that one boll of grain per horſe per hour might be taken as a fair average of work performed by thraſhing machines. That more may be done with ſhort oats in every ſeaſon, and with all grains in particular ſeaſons, I readily admit; but, taking ſeaſons as they generally happen, and grain according to the proportions uſually raiſed over the kingdom, I muſt maintain that my calculation was tolerably accurate, if regular journies or yokings, not detached hours, are to be eſtimated. But, allowing I was wrong, what benefit does your correſpondent's argument get thereby? If more is thraſhed per horſe per hour than I calculated, the advantage is reciprocal. I grant it would affect my argument in ſo far as it applied

applied to flail work; but this is a branch of the ſubject which he has not noticed.

I am at a loſs to aſcertain the benefit that can be gained from knowing that Mr William Tunſtal has erected a mill which, in ſix hours, with one horſe, thraſhed fifty buſhels of wheat, or that the late Mr Palmer of Matſtock invented a mill which was much approved of. I ſhould be glad to know, whether theſe machines were conſtructed upon different principles from thoſe in common uſe; if not, the word *invented* is moſt improperly uſed. I ſhould alſo be glad to learn what was the length of Mr Tunſtal's ſtraw; for if it was cut by the middle, as is cuſtomary in many Engliſh counties, one third more grain might be thraſhed in a given time than is practicable in this country. In a word, the quantity thraſhed by any machine depends ſo much upon the nature of the ſeaſon, the climate of the diſtrict, the length of ſtraw, and the quality of grain, that no juſt inference can be drawn from any ſtatement which is not fully and diſtinctly circumſtantiated. I am yours, &c.

September 1804. ARATOR.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the Culture and Uſe of Ruta Baga, or Swediſh Turnip.

SIR,

I OBSERVED, in your laſt Number, a paper 'On the Quality and Uſe of the Swediſh Turnip or Ruta Baga,' and expreſſing much doubt if it is yet ſo well known as to be conſidered as a crop advantageous to the farmer, under the hazardous circumſtances which attend its cultivation.

This has induced me, as a practical farmer, though much engaged in other occupations, to beſtow an hour in giving you a ſhort account of my experience of this ſpecies of turnip. About eleven years ago, ſoon after I knew of the ruta baga being raiſed in Britain, I purchaſed an ounce of the ſeed for one ſhilling, which was ſown in my garden. I found it ſtood the winter, unaffected by the froſt, and allowed ſome ſtocks to ſtand for ſeed. In 1794, I had ſome drills thereof in the field, and from them tranſplanted a conſiderable number of the beſt ſtocks in a kail-yard, upon two or three falls of well prepared land. They were generally from 5 to 7 lib. weight. The winter was uncommonly ſevere, and the ſpring ſtill more ſo, a cloſe froſt having continued above twelve weeks.

It happened (as I thought unfortunately) that a few of my ſheep

got into the yard, and ſeveral of the turnip were bitten by them. I ſuppoſed theſe would have been immediately deſtroyed by the froſt. It was not ſo. They brought ſeed; and I had a large quantity fuller and better than any turnip ſeed I had ſeen of any kind. I gave away ſome, ſold 20 lib. weight to my ſeedſman at Dumfries, and kept what ſerved me for two or three years. I found it might be raiſed with more certainty than any other ſeed, the root not being affected by the froſt, which is often ſo deſtructive to other turnip kept for ſeed; and, the ſeed ripening later, it was not ſo ſubject to the depredation of ſmall birds, who ſeize ſo greedily upon all early ſeeds.

From the year 1796, I had above one acre in the field, and, for the laſt four or five years, have had from two to four acres. I had them ſown in the common way, with the drill plough, and the land prepared and managed in all reſpects as for other turnip, excepting that the ſeed was earlier ſown. I found it neceſſary, for bringing them to the beſt ſize, that they ſhould be in the ground the laſt week of May or firſt week of June, as I live in an inland part of the country, about fourteen miles from the ſea. In a lower climate they might be ſown later, but in a higher climate they ought to be earlier. Having heard, ſeveral years ſince, that they might be raiſed of greater ſize, and more certainly, by tranſplanting, like cabbage, from the ſeed-bed, I tried it, as I thought, fairly. They did not even grow ſo regularly large; they were attended with more labour; and I ſaw that, in a dry ſeaſon, they might be kept too far back, and allowed to grow too large in the ſeed-bed before a ſeaſonable time was got for tranſplanting.

I notice, in the paper I have mentioned, that one of the great objections to this turnip is, the plants running to ſeed. I have never found that fault. So far as I recollect, not one turnip in an acre has run to ſeed with me. At all events, I am ſure that more have not done ſo than of common turnip, otherwiſe that I would have obſerved it Whether this has been owing to the time or manner of ſowing being different, or their being different kinds of ſeed, I will not venture to ſay. The latter, I think, is moſt probable, as I have heard no perſon make the complaint who uſes the ſame kind of ſeed that I have done.

I notice alſo a doubt expreſſed as to the quantities grown of this turnip having increaſed for ſome years paſt. This may be the caſe in ſome counties or diſtricts. So far as I have occaſion to obſerve, it has certainly gained ground, and is ſown to a greater extent than was the caſe a few years ago; and I have reaſon to think the practice has increaſed very conſiderably further ſouth. Different perſons from Cheſhire, Nottingham, &c. have told me ſo. In the London Chronicle, I obſerved laſt autumn an agricultural report,

report, where it was ſtated, that a certain diſtrict in the ſouth, ſix years before, had only eight acres of Swediſh turnip, and laſt year, in the ſame diſtrict, there were growing four hundred acres.

From my experience and ideas of the utility and ſuperior qualities of this plant, I ſhould indeed be ſorry if its culture is not extended yet much beyond what it has been. At the ſame time, I do not think it ought to encroach, in a great degree, upon the growth of common turnip, which has been found, with all its effects and conſequences, to increaſe the food of man more than any other ſpecies of plant I have known or heard of. That it requires all the ingenuity and management of which the farmer is capable, and all the wiſdom and foreſight of the Legiſlature, to ſecure food for the increaſing population of the country, we have much experience of; owing, in a great meaſure, to our variable climate. It is equally obſervable, and felt by farmers, and often by people of all ranks, that our former valuable turnip is not proof againſt the changes of the weather, and the ſevere froſts we ſometimes have in the ſpring; and that a great deficiency ariſes, from the failure of turnip, of food for cattle required for the uſe of the market. This is no doubt a ſerious evil, which evil is alſo felt by the farmer, in the want of food for cattle propoſed to be fatted early on graſs, and for younger cattle which he wiſhes to diſpoſe of. Every farmer, experienced in the uſe of turnip, knows the effect that even ſmall quantities in the ſpring, given to cattle or ſheep, have upon them, when firſt laid upon graſs. They immediately commence to acquire fleſh and bone. The want of ſuch green food hardens or contracts the fibres; and theſe require a conſiderable time to relax them, before growth of any kind begins.

Spring food for ſtock of all kinds kept upon cultivated farms, has been conſidered, ſince I firſt remember, as the greateſt want that farmers had to encounter, and the want which there was leaſt proſpect of getting ſupplied. No article, in my knowledge, has appeared to anſwer the purpoſe ſo well as the one under conſideration. If it does ſo, there are few farmers of experience but will allow that it is an invaluable acquiſition to the country.

In my uſe of Swediſh turnips, I reſerve them till the ſpring, generally the 1ſt of March. I then give them in ſome proportion to all my cattle, to which other turnip had been given in the winter. To fatting cattle, the largeſt proportion; and to young cattle, in ſmaller quantities.

In ſpring 1803 (my crop of potatoes having been very ſhort in 1802), I gave ten horſes Swediſh turnips for ſupper for about ſix weeks. They were equally fond of them as they are of po-

tatoes, and anſwered as good a purpoſe in all reſpects. They were clean waſhed, and broke a little in a tub with a ſharp ſpade, ſo as the horſes teeth might readily get hold of them. This laſt ſpring, being ſomewhat afraid of a ſcarcity of fodder, particularly for a number of cattle which had got a few common turnips through winter, I determined, about the 1ſt of March, to try my Swediſh turnip, and to uſe them with economy, ſo as to ſecure a ſupply of food till the graſs ſeaſon arrived. For this purpoſe, I took up thoſe which grew upon a fall of land, and having weighed the produce, I arranged the quantity to be given daily to the whole of my cattle and ſheep. In this way, I had a ſuitable ſupply, till the whole was either ſold or laid upon graſs. I had three acres in all, the produce of which amounted to 14,400 ſtone weight. I need hardly ſay what would have been my difficulty, ſituated as I was with a large ſtock of cattle in hand, had I not been provided with a ſuitable quantity of this beneficial article. In fact, a few acres at that critical period of the year inſures an advantage to the ſtock farmer, not to be obtained by the culture of any other variety of ſpring food.

Here, however, I have to relate, that, for the firſt time, I found, this ſpring, ſeveral of the turnip failed, occaſioned probably by the uncommon variableneſs of the weather. Some part of the ground was of a loamy ſoil, and there the failure was greateſt, though it took place alſo partially upon what was of a gravelly nature. This firſt failure, though it did not ſeem to exceed one hundredth part of the crop, is a ſevere diſappointment. I can aſſure you, however, that I have formerly had them half, or more, eaten by ſheep; while the remaining parts continued good and firm for ſeveral weeks after, and were not, in that ſtate, injured by froſt. If the failure of a few of them this year ariſes from our climate having altered the nature of the plant, the ſame ſeed having been continued and grown for ten or twelve years, this may be corrected, by getting a freſh ſupply from Sweden; and if that is found to anſwer the purpoſe (like a renewal of Poliſh or Frieſland oats), we need be at no loſs to have the root in its perfection.

I have only to add, that I remain,

Sir,

Your moſt humble ſervant,

——M ——T.

Dumfrieſſhire, 9th July 1804.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the Propriety of Bruiſing Oats with a Machine, for ſuch Horſes as do not Grind them ſufficiently with their Teeth.

SIR,

HAVING ſome time ago heard the above ſubject diſcuſſed in a ſociety of reſpectable farmers, I was rather ſurpriſed to find much difference of opinion, on a queſtion which might have been ſo eaſily decided by experiment.

It was contended by ſome, that oats vegetated on a dunghill, after paſſing whole through the ſtomach of a horſe. And, on the other hand, it was ſtated, that although whole oats were to be found in horſe-dung, they had parted with their farinaceous and nutritive properties in their paſſage through the horſe, and were become either empty huſks, or contained only an inſignificant portion of mucilage, without any power of vegetation; and that the oats growing on dunghills were ſuch as had fallen from the horſes' mouths while feeding.

I beg leave to ſtate, that I accidentally noticed a large quantity of whole oats in ſome dung juſt paſſed from a horſe, and, upon examining them, they appeared to be quite ſound: I thereupon had the dung mixed with mould in a garden-pot, and, in about a fortnight, the oats began to vegetate very freely, and are at this time two or three inches above ground.

It is not convenient to me to follow up this experiment, and I therefore confine my ſtatement to ſaying, that *oats have vegetated after paſſing through one of my horſes.*

This fact muſt have been repeatedly aſcertained; but as it is by no means generally received, you may think it worth while to take further notice of it; and ſince it is connected with very important conſiderations in the branch of agriculture relative to feeding, it cannot be too frequently impreſſed on your readers.

From the above, I am induced to ſuggeſt the utility of bruiſing all grain that is to be given to horſes, ſo as the full benefit of the nutritive matter therein contained may be procured. I am, yours, &c. *T. N. P.*

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Thoughts on the Quantity of Grain required to Seed a Scotch Acre of Land.

SIR,

ENCOURAGED by the favourable reception of my former letters under different ſignatures, I again venture to addreſs you,

reſpecting the quantity of grain required to ſeed a Scotch acre of land, which I truſt will be thought deſerving a place in your Magazine.

It is obvious, that, in order to render our lands as productive as poſſible, due attention ſhould be paid to every part of the farming proceſs, from the breaking up of the ground by the plough, to the carrying of the crop to market. No doubt, ſome parts of the farmer's diverſified labours deſerve more accurate attention than others; but it ſhould be a maxim with every one, 'that whatever he does, he ſhould endeavour to do it well.'

Very little obſervation may ſerve to convince one, that many errors are committed by farmers, with regard both to the quantity, and to the equal diſtribution of the precious ſeed. To judge by the practice of ſome people, one would be led to ſuſpect, that they thought nothing elſe neceſſary for enſuring a good crop, than to ſow liberally; while others again, by the careleſs manner in which they diſtribute the ſeed, we would be ready to conclude, that they thought preparing the ground for its reception all that was neceſſary. I remember that, not many years ago, a certain extenſive farmer, and he not low in the liſt of fame, maintained, that five firlots of oats were no more than ſufficient to ſow a Scots acre, and he uſed to condemn the practice of ſuch as ſowed a ſmaller quantity. A boll, nay even five firlots of wheat, is ſtill ſown by ſome upon the acre; ſix or ſeven firlots of peas and beans; and almoſt a boll of barley. Now, Mr Conductor, I am clearly of opinion, that ſuch enormous loads of ſeed, inſtead of contributing to an abundant crop, muſt tend to diminiſh it. No doubt, regard ſhould be paid to the nature of the ſoil and climate: Some ſoils and ſituations requiring thicker ſowing than others; but, in general, I will ſay, and I ſpeak from long practice, that a much leſs quantity than what is uſually ſown is ſufficient for ſeeding the ground. When land is kept in good order, by proper tillage, and a judicious rotation, and when due attention is paid to diſtribute the ſeed equally, I will venture to recommend the following quantities of each grain upon the Scots acre, taking it for granted that the ſeed is freſh and well dreſſed, and that the climate is ſuch as we enjoy in the middle diſtrict of Eaſt-Lothian.

Firſt, then, with regard to wheat, if ſown when the land is ſufficiently dry, and before the middle of October, I would recommend three firlots per acre, as a good average quantity—I ſay average quantity; for in this the farmer muſt be guided by his own judgement, in regulating the quantity by the ſeaſon he ſows in. If he is diſpoſed to ſow his fallows ſo early as from the middle to the end of September, ten pecks will be found fully

fully ſufficient for an acre; but if he defers ſowing till the middle of the following month, three firlots will not be too much. Wheat after peas or beans, if the land is clean and ſufficiently dry, will not require to be thicker ſown than on fallow; but if ſown later than the middle of October, more ſeed ſhould be given, as the riſk of ſome of it periſhing is greater after that time. If wheat is not ſown before the ſpring, a greater quantity of ſeed may be neceſſary, as thick ſowing haſtens the progreſs of the crop to maturity; and I ſhould not think fourteen pecks more than enough, if ſown at that ſeaſon. 2*dly*, With regard to barley, I would recommend ten pecks per acre on dunged and well fallowed land, and eleven pecks, or three firlots, on land that had been peas or beans the preceding year. 3*dly*, As to the quantity of oats per acre, perhaps I may be thought rather deviating from the ſure road of experience, when I venture to recommend a ſmaller quantity than one boll per acre; but from my own practice on ſuch lands as are not deemed fitteſt for thin ſowing, being moſtly thin clay on a cold bottom, interſperſed with ſpots of loam on a rocky bottom, I have frequently ſown at the rate of three firlots per acre, without having reaſon to complain of want of ſucceſs: however, in this as in every other caſe, the practical farmer muſt exerciſe his own judgement to determine the proper quantity, by the ſtate of the ground in the time of ſowing. For there is not the leaſt doubt, that conſiderably leſs ſeed will ſuffice in a favourable, than in a backward, wet, and untoward ſeaſon. In general, however, I have no heſitation in aſſerting, that, in an ordinary ſeed-time, fourteen pecks of oats are perfectly ſufficient for an acre. Of the kind called potato oats, I reckon ten pecks a large enough quantity. Having had little experience in the ſowing of the other early kinds of oats, I ſhall be ſilent concerning them. But let me again obſerve, that great care ſhould be taken to cover the ground as equally with the ſeed as poſſible; for if done in a ſlovenly and careleſs manner, it muſt be evident, that no given rules as to quantity can be of any uſe. And here allow me to notice the folly and vanity of ſome people, who pique themſelves on being thought great ſowers, and will tell you with great ſelf-approbation, of their having ſown ſuch and ſuch quantities in a given time; never recollecting, that, however ſtrong a proof ſuch feats may be of their bodily powers, they for the moſt part betray a proportional want of judgement in the diſtribution of the ſeed; and, inſtead of being gainers by ſuch violent exertions, they very often throw away as many firlots of corn as they ſow acres, beſides injuring the future crop. It will be needleſs to point out what a ſaving to the nation, as well as to individuals, three or four pecks per acre

acre would be; and, in many cafes, I have not the fmalleft doubt fuch favings might be made with the greateft propriety. But, in order to attain this end, let all attempts to aftonifh the world by great feats in fowing be for ever debarred, and let the attention of the farmer be directed to difleminate the grain with the greateft poffible exactnefs; and, for this purpofe, let him not difdain to fet an example (if capable) to his fervants himfelf; and thus, by going along with them in this pleafant part of his operations, and frequently cafting his eye over their performances, he will not fail, in fome degree, to prevent that flovenly method of fowing which fome people have, the effects of which has often met my eye, when I have had occafion to view their fields after feed-time. I have deferred mentioning peas and beans to the laft, as they are feldom fown to advantage in the broadcaft way, and fhould therefore, always when practicable, be fown in drills, and horfe and hand-hoed between the rows. Some inftances may occur, of good crops of both peas and beans, and even the land left in good order after them, in the broadcaft way; but I believe I may venture to fay, that three times out of four they leave the land in bad order for a following crop, which is certainly a good reafon for preferring the drilled hufbandry with refpect to them. As to the quantity proper to be fown on an acre, the general practice is, in my opinion, to fow them too thick in the row; no lefs than fix firlots being by moft farmers thought neceffary. As far as my experience goes, I would prefer a fmaller quantity, and would not be afraid of my crop turning out deficient for want of feed, if at leaft a firlot was kept back from every acre. I cannot fay, that I have ever made any experiment of the produce from different rates of fowing; but, fo far as I am capable of judging, from infpection of the growing crops at the different rates above mentioned, I do not think I am deciding rafhly, when I give the preference to the rates I have recommended. I have fometimes thought that a machine might be devifed for fowing corn more equally, than it is perhaps poffible, efpecially in windy weather, to do by the hand; and, at the fame time, to depofit it at a due depth in the ground, quite out of the reach of pigeons, birds, &c.; but as I have no mechanical turn, I only fuggeft the hint.

Perhaps, not a fmall number of your readers may think the rates of fowing recommended in this letter are rather below the golden *medium*. To fuch I can only fay, that what I have written is the refult of my own experience; and, however defective it may appear in point of valuable information, I flatter myfelf you will not think it inconfiftent with the nature of your widely diffufed Publication. Wifhing you and your readers all good things, I am, &c. ARATOR, junior.

TO

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the Nature, Improvement, and Qualities of different Soils proper for Rearing Sheep.

LETTER II.

SIR,

REFERRING you to my former letter, vol. IV. p. 300, I ſhall now proceed to ſpeak of thoſe kinds of herbs, the effects whereof on the conſtitution of ſheep are ſomewhat ſimilar to thoſe of heath, and which are often found on the ſame ſoil with it. The principal ones are *bent*, *ling*, and *deer-hair*. Theſe are the names by which they are known in this neighbourhood; but I ſuſpect they are only provincial ones, and that the ſame plants or herbs may be known by different names in different diſtricts; therefore, in order to prevent miſtakes, I ſhall endeavour to give a ſhort deſcription of each as I proceed.

Bent may be divided into three kinds. The moſt valuable is that called *ſtool-bent*, whoſe root forms a kind of cylindrical cluſter, partly above and partly below the ſurface of the ground, about one inch in length, and a quarter of an inch in diameter. From this root ſpring a number of ſmall green leaves, which ſpread from the centre in an oblique direction; and, in the months of June and July, a ſmall round ſtalk ariſes from the root, in the middle of the leaves, extending to about a foot in height, which bloſſoms in July, ſeeds in Auguſt, and decays in September. This ſpecies is not confined to any particular ſoil; for though it is found, in greateſt abundance, on dry brittle moſs, with a ſmall mixture of ſand, yet it is alſo obſerved on clays and gravels; rarely, however, on the latter, as the porouſneſs of the ſurface is unfavourable to its growth.

This kind of bent may juſtly be reckoned among the moſt valuable plants which a moſſy ſoil produces, being a ready and healthy ſpecies of food at almoſt all ſeaſons; for even in January, February, and March, when moſt herbs have ſuffered greatly from the ſeverity of the ſeaſon, it loſes little of its verdure, and conſequently affords a ſupply of green food at a time when it is otherwiſe very ſcarce. It hath alſo this advantage over heath, that the ſheep bred thereon feed to a greater weight, and carry more wool than thoſe reared upon the former, and are not ſo apt to turn lean in April, that critical period of the year. I cannot, however, omit noticing, that, after the beginning of April, the ewe generally gives the preference to herbage of a more juicy and nutritive nature, as being neceſſary to bring and keep upon her a ſufficiency of milk to ſupport the lamb. To obtain this end ſhe ſpares no pains; but wanders about and inveſtigates

veſtigates every corner of the lands to which ſhe has acceſs, often at the hazard of her life. This inſtinctive, nice, diſcriminating power of the ewe, in ſeeking after ſuch food as is beſt adapted to her preſent ſituation, exhibits a ſtriking proof of that care and attention which is exerciſed by Nature over all her works.

Reflecting on the hardy nature of this plant, which is ſeldom injured by winter froſt, I am inclined to think it may be propagated on land not previouſly prepared by tillage. On this point, indeed, I ſpeak not from experience, but only hazard an opinion. It certainly, however, merits a trial; and, if found to anſwer, would be a great acquiſition to the Highland farmer; as it is well known, that in high-lying grounds, expoſed to the north and eaſt winds, the graſs is but thin and naughty, even in ſummer, and for the moſt part unfit for paſture in winter; whereas this ſpecies of bent not only yields more food in ſummer than any kind of graſs that will grow in ſuch ſituations, but is infinitely ſuperior during the winter and ſpring months. The latter end of March or beginning of April may be conſidered as the moſt proper ſowing ſeaſon, provided the weather is wet; as the ſeeds, being carried down by the rains to the roots of the fog or moſs, would thereby be ſecured, in ſome degree, from the effects of future drought, and might be expected to vegetate in ſafety. I will not pretend to put this plant in competition with the more ſucculent and nutritive graſſes, which are now generally cultivated on all ſheep farms, where the ſoil and climate allow; yet its great utility as green food in the ſpring months, might perhaps warrant a partial propagation of it, even in the moſt favoured ſituations.

The next ſpecies I ſhall take notice of is called *white bent*. Perhaps it has acquired this name from having always a white and withered appearance at top, even when it is green, and ſpringing at bottom. The root, which is generally long, ſends out a vaſt number of ſmall ſtalks, about a foot long, and not much thicker than horſe hair. This kind of bent ſeems to thrive beſt on the ſoils already noticed, as moſt adapted to the production of *ſtool-bent*; but its value for paſturage is far inferior to that of the laſt mentioned plant. Indeed, it yields ſo little food, that ſheep ſeldom paſture upon it unleſs it hath been recently burnt, or in time of ſnow, or during ſpring, when the want of a ſufficiency of other food compels them to ſeek diligently into its roots.

The laſt ſpecies of bent is uſually called flying bent, from its light, floating nature, and the conſequent eaſe with which it is driven by the wind. It ſprings in May, and is fit for paſturage

turage from that time to near the latter end of Auguſt, after which it is good for nothing. Though not quite ſo common as the two other kinds, yet it is to be found in ſome places, in conſiderable quantities. It delights moſt in a ſoil compoſed of moſs and earth, incumbent on a firm bottom of earth and gravel, and is obſerved to abound more in low than high grounds. Like white bent, it cannot be too often burnt; for if this practice is neglected only for a few years, the accumulated produce of theſe ſeaſons renders the ſoil ſo coarſe and unproductive, that ſheep ſeldom paſture upon it; and, what they do get, affords but little nouriſhment. Some ſoils are conſiderably benefited, by graſs and weeds being allowed to rot upon them; but this does not ſeem to be the caſe with moſſy ones; for it is found from experience, that the more old graſs or other decayed vegetables there is upon the ſurface, ſo much the worſe is the produce of that ſeaſon.

Ling, which I am next to conſider, is excluſively the production of moſs ſoils, eſpecially ſuch as are flat, wet and deep. It produces ſmall ſtalks, with black oval heads, known here by the name of *moſs-crop*. Theſe ſtalks, being among the firſt vernal productions, are eagerly ſought after by ſheep, even to the endangering of their lives, in holes and moraſſes. In May they are covered with a white downy ſubſtance, nothing inferior to the fineſt cotton; but from and after that time ſheep are not diſpoſed to eat them. Ling is proper for food from the beginning of March to the latter end of Autumn, and even before and after theſe times, if the weather is freſh and mild; for ſo ſtrong are the vegetative powers of this plant, and ſo great is the influence of the weather upon it, that a wonderful alteration takes place in a few freſh days. In Spring, ſheep receive much nouriſhment from its roots, which they pull up and eat with great avidity, as they are then freſh and nutritive. It is excellent food for lean ſheep, being of a more coſtive nature than young graſs, yet not leſs nouriſhing; of courſe it feeds as well, and at the ſame time preſerves from the ruſh or diarrhœa, a very formidable diſeaſe, to lean hogs in particular.

There are other plants common in moraſſes, and even in wet meadow lands, where the ſoil is a little inclined to moſs, which produce ſtalks and flowers ſimilar to thoſe of ling, and are clothed with the ſame downy ſubſtance; but as they do not appear to be reliſhed by ſheep, it is unneceſſary to take farther notice of them.

Deer-hair is nearly of the ſhape and ſize of ling, and is ſometimes found in a flat deep moſs along with it, though oftener in a moſs ſoil more dry and tenacious, which it ſeems to prefer to all others. It ſprings about the middle of April, bloſſoms at the

the latter end of May, and is fit for paſture from that time to September.

There is alſo another ſpecies of graſs called *ſword-graſs*, peculiar to a moſs ſoil, and of a more nutritive nature than any of the former, but is rarely found in the ſouth of Scotland, though abounding in many parts of the Highlands. It ſprings and decays much about the ſame time as deer-hair. The root ſpreads and divides itſelf into different branches, from each of which, at certain periods, four leaves or piles generally ſpring. Theſe leaves are about five inches long and one-eighth broad, reſembling thoſe of *pry*, an evergreen peculiar to bogs. This ſimilarity, however, laſts only for about three months, after which the former become yellow and decay, while the latter retain all their native vigour. As this plant is juicy and palatable, ſheep are very fond of it, though it can be conſidered as an article of food only for the above mentioned period.

Having already noticed the modes of improvement which I conceive to be beſt adapted to each of the above mentioned plants, it remains only, upon this part of the ſubject, to make one or two general obſervations, applicable to them all.

The firſt and principal improvement, then, which I would recommend, is frequent burning. This ought to be done early in April, or rather in March, if the weather will allow; for when the operation is deferred till the ſeaſon is far advanced, the young ſtem, being conſiderably above ground, is rather ſcorched than burnt, and thereby rendered unfit for food. The advantage reſulting from this practice, to white bent, flying bent, ling, and deer-hair, may be viewed as very conſiderable; it being uniformly found that theſe plants maintain moſt ſtock the ſeaſon in which they have been burnt. With reſpect to ſtool-bent, however, it is doubtful if burning can be performed in ſuch a way as to prove beneficial. This plant being perennial, conſequently always green, is rather ſcorched than burnt, unleſs it happen to be mixed with ſuch a number of annuals as will afford a ſufficiency of combuſtible matter for bringing the proceſs to perfection.

Drainage tends greatly alſo to the improvement of ſuch paſtures as I have been treating of, as it carries off all ſuperfluous water, and prevents the food from being locked up by ice in time of froſt. Much judgment, however, is required, to know when it can be done to advantage; as, in ſome caſes, the benefit received will not prove an adequate indemnification to the expence incurred. In general it may be ſaid, that, on all ſoils abounding with heath, ſtool-bent and ling, on which there is much dependence for winter meat, the proceſs of draining is warrantable, and will certainly repay in no great number of years; but that, where deer-

dear-hair prevails, which is only fit for ſummer food, the operation is not ſo neceſſary, as a ſuperabundance of water rarely prevents acceſs to all paſtures at that ſeaſon of the year. I would recommend the drains to be made eighteen inches wide at top, and of about the ſame depth, ſloping in the ſides, ſo as to meet in an angular point at bottom; but where the ſubſoil is clay or gravel, it would be preferable to have them about a ſpade breadth wide at bottom alſo. I remain your friend and ſervant,

S. L.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Detached Thoughts on the Syſtem purſued by Mechanics in Scotland, in Proſecuting and Executing their Works of Labour.

SIR,

IT was with much pleaſure I read, in your laſt Magazine, a paper, entitled, '*Conſiderations on Regulating the Value of Labour*,' chiefly regarding mechanics in the Highlands of Scotland, which contained ſuch uſeful information and ſound argument, as muſt convince every impartial reader, that the writer was complete maſter of his ſubject; and I ſincerely hope, that he will continue to ſupply your entertaining and uſeful Magazine with the fruits of his inveſtigations, which muſt be truly valuable to the public.

From the peruſal of the above paper, I was led into a train of thinking concerning the conduct of mechanics (I allude chiefly to maſons and carpenters) in the Low Countries. I ſhall therefore beg leave to lay before the public my ſentiments on this ſubject, through the medium of your intelligent publication.

Should a country gentleman deſign to build a houſe of reſidence for himſelf, or erect a ſet of farm-offices upon any part of his property, he will probably firſt apply for a plan, and then engage with a maſon and carpenter to execute their reſpective ſhares of work, according to contract. No doubt but both theſe mechanics (though at the time they have more work from others than they can poſſibly overtake) will engage to finiſh his buſineſs by a ſtated period. Well; the eſtimates are given in, and apparently correctly made. To work they fall. At firſt, the employer ſees a number of good hands, and things go on ſwimmingly, to his great ſatisfaction. In a ſhort time, however, the picture is reverſed; hands drop off daily; till at laſt the work is almoſt at a ſtand. If the maſter carpenter or maſon is called for, the excuſe is,

is, (with a low bow and a penitential face)—' Oh, Sir, Mr ſuch-a-one's houſe wants only a week's work to finiſh, which will be done immediately, when my hands will come back reinforced, and your Honour will never know that they have been abſent.' This is ſo far, however, from being the caſe, that by delay in finiſhing the work at the ſtated terms, there comes to be a nullity in the contract. Here is a fine piece of work.—But, before touching upon this point, let us examine the cauſe of delay, in thus running from one employer's buſineſs to another's, and undertaking, nay ſoliciting, buſineſs which they can never properly accompliſh. It originates in the *auri ſacra fames*, which may be literally tranſlated *hell-fire greed*, and a total want of principle. For, in our ſiſter kingdom, a tradeſman, when applied to, will decline work, if he has more on hand than he can properly overtake. But it is ſeldom (I am ſorry to ſay it) that the like fair dealing is ſhown by Scotiſh maſons and carpenters, who, graſping at every job which preſents itſelf, ſeldom do their work to purpoſe, and thus injure and diſpleaſe their cuſtomers.

To recur to the breach in the contract through delay.—The eſtimates being brought again into play, perhaps there is a ſmall deviation from the agreement, either in the plaſtering of a partition, or erecting a preſs, or in ſimilar things of trifling magnitude: then the employer is told, with a grave face, that this was the cauſe of the delay, and that the contract, having been thus originally paſſed from, he can have no recourſe for a penalty. Perhaps the law will hold the ſame language too.

Now, let us proceed to examine the work according to the eſtimates.—Before finally ſettling with the contractors, we ſhall ſuppoſe all is well, and properly, though not timeouſly, finiſhed. The employer is ſtill willing to pay according to eſtimate; but, to his vaſt ſurpriſe, a long account of extra items is handed to him—' Sir, I thought every thing had been minutely mentioned in the eſtimates: what is the meaning of this? Why, here are items for lintels to doors and windows: how the devil do you hang them without lintels?' In anſwer to this—' Sir, doors are doors, and windows are windows; but there is no mention of lintels in the eſtimate, &c. &c. But, Sir, that there may be no words betwixt us, do you call one impartial tradeſman, and I will call another, and let them judge impartially betwixt us.' I need not tell the employer what probable redreſs he will get in doing ſo: that is ſufficiently well known to the public in general.

If dire neceſſity compels the having recourſe to the Sheriff-court, he will perhaps, inſtead of amending his *new*, bring an *old* houſe about his ears. For going to law is like a ſheep eſcaping from a thicket of brambles. He may *perhaps* come off unhurt,

hurt, but is ſure to leave the beſt of his wool behind him. And though the poor ſheep is *thus* the means of clothing the men of the law, yet he may be thankful he did not alſo garniſh their tables.

Thus, Sir, have I endeavoured to point out the too common faults of our maſons and carpenters; and though there may be no proper remedy for ſuch their illicit practices, yet, as your Magazine is univerſally read by all claſſes of men, this paper may perchance meet the eyes of ſome of theſe delinquents; and if it tends, in any degree, to ſtop the torrent of ſuch abuſes, the public will be gainers; for I am of opinion with Mr Pope, that there are many,

> 'Who, ſafe from the bar, the pulpit and the throne,
> Yet are touch'd and ſham'd by ridicule alone.'

I am, Sir, your very humble ſervant,

A COUNTRY GENTLEMAN.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Letter from Sir George Stewart Mackenzie, Bart. concerning the Price of Labour.

SIR,

ALTHOUGH, in the paper of Pol-Œconomicus, there appears ſome degree of contempt, yet I could readily excuſe this in a man of abilities ſo ſuperior to mine, were it not that I am not conſcious of having laid myſelf open to have my principles attacked in the manner they are by your correſpondent. I value the opinion of a man daily engaged in the purſuits of agriculture, and who has not only diſplayed much knowledge in his profeſſion, but who ſeems alſo to have made himſelf well acquainted with the principles of political œconomy, more than the opinion of one who ſpeculates in his cloſet, without having any knowledge of active life, and the various circumſtances that overthrow the plans of the theoriſt. On this account, I am glad that, in your note to my firſt letter, you agree with me concerning the advance in the price of labour. Far from cheriſhing illiberal principles reſpecting any concern of life, I believe not even your correſpondent feels more anxiety than myſelf to ſee farmers properly and comfortably lodged, and having every poſſible convenience for carrying on the operations of agriculture. Your correſpondent has forgotten, that it was on account of the farmer I regretted the advance in the price of labour, and not that I wiſhed to deprive him of the com-

fort which the cultivators of the ſoil are well entitled to enjoy. I regretted that the demands of workmen put it out of our power to grant to tenants the accommodations they ought to have. Why am I then attacked, in common with all Highland proprietors, for illiberality towards our tenants?

Had there been ſufficient grounds for the late advance in the price of labour, I ſhould have been the laſt to grumble. In my ſecond letter, I mention the appeal of workmen to the price of proviſions, as an apology for their increaſed demands. Whatever may actually be the relation (if any) between the price of labour and the price of proviſions, it appears pretty evident, that, in the inſtances complained of, the workmen themſelves look upon the latter as regulating the price of the former. As I think abſtract ſpeculations are foreign to the purpoſe of your Magazine, I forbear ſaying any thing on this ſubject. I ſhall only ſtate, that there are two queſtions: *Has* the price of proviſions any effect on the price of labour? and, *Ought* the price of proviſions to have any effect on the price of labour? The diſcuſſion of theſe I leave to Pol-Œconomicus.

I beg leave to inform your correſpondent, that we require no light from cloſet ſpeculators, to exhibit to us 'what effect the execution of the Caledonian Canal will have in meliorating the condition of the Highlands.' Ayrſhire is at ſo great a diſtance, that we cannot ſuppoſe a political œconomiſt there, can render uſeful his ſpeculations on the condition of the North Highlands; at leaſt, unleſs he can exhibit ſome acquaintance with the nature, the manners and cuſtoms of the country, the different relations of the inhabitants to each other, and many other particulars, a complete knowledge of which are neceſſary for Pol-Œconomicus, before he can make his diſcuſſion of any importance. At all events, I hope he will addreſs it to the world, and not to Highland proprietors in particular, whom, on the whole, he does not ſeem to hold in very high eſtimation.

As to our apprehenſions, that, without ſome caution, the execution of the Caledonian Canal would raiſe the price of labour, I muſt inform your correſpondent that they were not ill-founded. Thoſe who had charge of the work ſaw the danger; and, by fixing the price of day-labour at a moderate ſum for the ſpecies of work, removed our fears; and now that grand undertaking proceeds with rapidity. I confeſs that I am now more of your opinion, that the value of labour ſhould be left to find its own level, becauſe I have begun to experience that it *will* find its level, as I ſhall preſently mention. I do not mean to follow Pol-Œconomicus through his ſtatement of the cauſes which enhance the price of labour; becauſe I never doubted, that, *where they exiſt*, the circumſtan-

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ces he has enumerated will raiſe the price of labour. I ſhall only ſay, that, when I laid my complaint, *none* of the cauſes he has ſtated exiſted, which, perhaps, he may believe, when he has read the following caſe, which has happened to myſelf.

I have for ſeveral years continued to employ the maſon who long worked for my father, and he was ſo good a workman that I never wiſhed to employ any other; and he was ſo far ſatisfied with the proſpects he had, that he aſked a ſmall farm, which I gave to him. Laſt year, his demands appeared to me very extravagant. He had not to complain of *inconſtancy* of employment, being obliged to work far from home in the midſt of an 'unſheltered heath,' or to labour under any of the diſadvantages pointed out ſo feelingly by your correſpondent. On the contrary, he had only to take an agreeable walk through fertile fields, and by 'the living haunts of men.' At the commencement of this ſeaſon, he told me that he could not work for me, unleſs I agreed to give him three guineas per rood; and he enforced his demand by adding, that this was the county price. I told him that it might be ſo, and that I hoped he would procure many jobs, but that I had none for him at that rate. A maſon from another county came to me, and ſaid that he would do my work for two guineas per rood. Having inquired into his character and profeſſional ſkill, I cloſed with him; and he is at this moment at work, and has obtained a variety of other jobs. Here, then, is a moſt fortunate occurrence. Our people, ſeeing that a competition is created againſt them by ſtrangers, will, I hope, return to their ſenſes; and the price of labour come to a proper level. Is it illiberal policy in me, or any perſon, to employ a man who will work one third cheaper than another? Would your learned correſpondent, for the ſake of enforcing his maxims, give three guineas for what might be obtained for two! Pol-Œconomicus would make you believe, that I confounded a combination of the workmen and a competition of the maſters, and crows moſt luſtily at this important diſcovery. The fact is this: The workmen did poſitively ſettle that they would demand an increaſe of wages, and the maſters had no ſpirit to compete with each other, but quietly acquieſced in the demands of the men, and increaſed their own demands on their employers. There was no ſuch thing as a competition among the maſters, nor did there exiſt 'a natural combination not to raiſe the wages.' I rather imagine that the maſters are indifferent about it, or would be glad of the plea of an increaſe of wages, in order to raiſe their rates, which they generally do in an increaſing proportion, as wages riſe, and, of courſe, derive larger profits when wages are high, than when they are low.

From what I have ſtated, I believe the 'agreement of country gentlemen among themſelves to counteract the extravagant demands of workmen,' will not appear to have had any bad effects, except ſubjecting ſome of our countrymen to pretty ſevere puniſhment, by preferring ſtrangers to them. Happy would we be in employing our own people while they continued to be reaſonable; but we ſhall never encourage extravagance and impoſition. We ſhall never, by encouraging theſe, deprive the lower ranks from having their little jobs executed at a moderate price.

Should Pol-Œconomicus favour us with any future diſcuſſion on the value of labour, I hope he will not overlook what I mention in my ſecond letter, the appeal of the workmen to the price of proviſions, as the ſtandard by which they regulate the value of their labour.

I may conclude by thanking your correſpondent for having taken up the ſubject I have ſtarted, and for treating me, on the whole, with temper and moderation, although it appears difficult to reſiſt occaſionally taking a hit in the dark, eſpecially when a little Latin ſticks at the finger ends. This is of little conſequence. If Pol-Œconomicus thinks that I have advanced any principles injurious to public improvement, he will do me a ſingular favour by writing to me a private letter; and if, in a private diſcuſſion, I ſhould diſcover that I am wrong, I ſhall gladly acknowledge my error in your Magazine, and alſo my debt to your correſpondent. The *reſult* of ſuch a diſcuſſion will ſatisfy moſt of your readers; and it is not perhaps proper to take up too many of your pages with abſtract ſubjects.

I truſt you will forgive my requeſt, that you will favour us with your opinion on the ſubject under diſcuſſion. I know your correſpondent will not quarrel with me for appealing to you, who have made the Farmer's Magazine what it is, and who at all times ſeem diſpoſed to admit every fair and amicable diſcuſſion.

Hæc tibi erunt artes; paciſque imponere morem,
Parcere ſubjectis, et debellare ſuperbos.

I remain, Sir, with reſpect,
Your moſt obedient humble ſervant,

Coul, 3d Sept. 1804. GEORGE STEWART MACKENZIE.

NOTE.

THE Conductor, agreeable to the requeſt of his reſpectable correſpondent, intended to have offered a few remarks upon the above communication, and the one therein referred to; but a preſſure

preſſure of buſineſs prevents him from inveſtigating the arguments uſed, with that attention which their importance deſerves. He muſt remark, however, that the value of labour is ſeldom, if ever, regulated by the price of proviſions, but generally, if not always, by the quantity of labour preſented in the market, compared with the demand which appears for it. So far from labour being increaſed in value by a riſe upon the price of proviſions, the fact is, that the latter circumſtance uniformly contributes to render labour of leſs value. When proviſions riſe above par, the moſt of people muſt work more than uſual before they are able to purchaſe an ordinary ſupply of food; and others, who in a great meaſure would remain idle, are then neceſſitated to work ſo as they may live; which circumſtances throw more labour into the market, and ſerve to reduce its value, unleſs a proportionable increaſe of demand appears for the extra quantity of labour that is then preſented.

As expreſſed in a former note, we are decidedly hoſtile to every attempt which may be made to regulate the value of labour: therefore, we are clear that labourers and artizans of every deſcription ſhould enjoy full liberty to bring their labour to market, there to ſell it at the higheſt price which can be procured. This by no means ſubjects the purchaſers to pay a higher price than may by them be conſidered as fair and reaſonable; for if the purchaſer is a judge, he will never conſent to give more than market value. The anecdote given by our reſpectable correſpondent of his two maſons, illuſtrates what is in our view, better than any thing which we at this time can recollect. N.

FOR THE FARMER'S MAGAZINE.

Original Letter from John Cockburn, Eſq. of Ormiſton, to Alexander Wight, one of his Tenants, dated Tottenham, near London, 17th December 1726.

ALEXANDER,

SOME days ago, I received yours of 30th November, which is the firſt I have had from you, or any of your neighbours, of a long time. My wife returns thanks to yours for the receipt for making of ſtarch; and, as we are farmers here, ſhe ſays there is no receipt which ſhe, as a ſiſter farmer's wife, can return, but ſhe ſhall be glad to ſend. I did not ſend the book about flax, as I recommended; for it makes the profit ſo extravagant, that it is not to be minded. But I read all ſuch books; and if I meet with one uſeful thought, I throw away all the reſt; and don't grudge my trouble in reading a vaſt deal of ſtuff, if I find any

thing that helps me to a new and good idea, from which any improvement can be made.

I muſt deſire you will not be diſcouraged by what you ſay of the country people pulling up and ſpoiling your trees. Your ditches, as yet, ſeem to be principally upon the road ſides, where they are moſt expoſed to their ill nature. When you come to ſubdivide your encloſures, I hope you will not find them deſtroyed ſo much; but I deſire you will ſupply what are already deſtroyed; and if you are ſhort of trees, call for what you want from my nurſery. I further deſire, that you will endeavour to catch one of theſe malicious people; and if my own court will not be at the trouble of puniſhing them, I dare ſay either the Sheriff or Juſtices of Peace will do it, to ſuch purpoſe as will deter others. If this is not tried, I muſt ſuſpect your not doing what is in your power; and if I don't find trees in the hedges, I ſhall be diſappointed, and not well pleaſed. It was a bad ſeaſon laſt year for ſowing wheat; but that ſhould not diſcourage ſowing it. It will be found, taking one year with another, the grain that will yield the moſt to the farmer who conſiders the expence of labour, &c.

I am glad you have ſuch encouragement for ſowing clover and rye-graſs ſeeds; and I think you are in the right in trying different ſeaſons for ſowing your rye-graſs. I am convinced that it will come more into faſhion, which will, for many years, keep up the demand for the ſeed; and thoſe who have it to ſell will get the advantage, till the country comes to be fully ſupplied. In countries where clover is much uſed, I have generally heard that the ſecond crop is the cleaneſt ſeed. The beaſts coming from all quarters to eat it, and making you fear its being ſpoiled, muſt go to the account of its not being encloſed, and ſhews the good of encloſures, or rather the loſs of not having them. The preſent weather (if with you as here) is very dangerous to young crops, both of graſs-ſeeds and wheat; for, as we have had a ſtrong black froſt, and rain or ſnow twice during the time of it, which melted as it fell, the wet muſt have gone down to the roots, and no doubt but the ſtrong froſts have gone the ſame length, and ſo may have hurt the wheats in the country, as it has done the beans and peas in my garden. As your potato ground was well dunged and in order, I doubt nothing of your having a good crop of barley upon it, and that you ſaved ſeed. The making ground in good order, and ſo ſaving ſeed, is one of the things I have often recommended, and am glad you have found the experience of it. In accounts of charges and profit, ſaving of ſeed is a conſiderable article. I wiſh you had told me what was ſown, and what you had from it. The profit from the one fourth acre potatoes upon the bad land oppoſite

the

the church, is ſo great that I hope you will go on with them, eſpecially as you find good crops of corn after them. I find my garden ſtuff not only helps my own table, but ſaves me much butcher meat; for my ſervants are fond of it, when not preſſed upon them, but given as a favour.

I cannot ſay that I know any thing of flax by experience; but have always heard, that the ſeed ought to be changed frequently. I therefore adviſe your getting ſeed from Holland, though your own may be excellent, and the ſelling of it may be apparently attended with loſs. If you continue your reſolution of coming into England, I believe I can get you recommendations to ſeveral places in the north, about Stockton and in Yorkſhire. You will find ſome very bad huſbandry; but ſtill, in moſt places, ſomething to be learned upon the main. If you incline to come this length, you ſhall be welcome to lodging, for the time you can ſpare; and ſo you may ſee London and its neighbourhood, and get acquainted with ſeveral things which cannot ſo well be explained by writing. In general, I believe, you may depend upon my inclining to *encourage induſtry*; and, in particular, where I find it in *one of my own tenants, and one born and bred upon my own eſtate, to whom I always think I have a particular relation, and a tie upon me to encourage, more than ſtrangers; ſo you may expect all that a landlord can do for your conveniency in the brewery*, if you think of it, and that you can make by it, without ſuffering in your farm, and other buſineſs in which you are engaged. As I ſhall have a regard for you in any thing I ſhall aſk, ſo I expect you will deſire nothing of me but what is reaſonable; and that you will not think that I am not to have a reaſonable return for the money I have, and muſt lay out before that houſe and all belonging to it is made complete; and alſo a reaſonable rent for the land you have added to it. As I believe *we both incline to do fairly by each other in ſuch things*, I can't think we can differ, if, upon ſecond thoughts, you ſhall judge it convenient for you, and that you can really find advantage by engaging in it, at ſuch a rent as I can reaſonably let it at; and I am ſure you know me well enough, to think that *I don't incline to ſqueeze*, eſpecially from you or your friends, to whom I have always ſhown the greateſt favour.

If you think of this, I would have you employ ſome of your time, before you ſet out, in endeavouring to ſee the Scots way of malting and brewing, both at Edinburgh and other great malting houſes, ſuch as Mr Fall's at Dunbar, and Mr Mathie's in your neighbourhood. You will the ſooner underſtand what you ſee in England, that you have ſome notion of it; and alſo you will be

the better able to obſerve the difference, and make remarks for your future advantage.

You ſay you have no underſtanding of woollen goods. You will eaſily get enough to enable you to deal a little in them in the country retail way, that a country man may find at your houſe each of the things he moſt commonly wants for his family, or other uſes, and ſo provide himſelf at once, in place of going to different towns; otherwiſe, he will go for iron (for example) where he can get cloth and other things for a coat—But you are better judge of this than I. Never *think your letters are tireſome to me; for I am always willing to give the beſt advice I can, and mightily pleaſed to hear of you having ſucceſs in any improvement you undertake. So write freely.*

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the Advantage of uſing Hot Lime when Seed Wheat is Steeped.

SIR,

A CORRESPONDENT in No. XVII. of your Magazine, who ſigns himſelf A. S., has favoured the public with ſome remarks on a communication made by the late Sir John Call to the Board of Agriculture, on the ſmut or black upon wheat, wherein he does not diſplay much acquaintance with the ſubject. He aſſumes, as an acknowledged fact, what I am by no means diſpoſed to conſider in that light, viz. that ſteeping ſeed is attended with dangerous conſequences, and uſes ſome arguments which ought not to paſs unnoticed; becauſe a general adoption of his ſentiments would inevitably lead to the moſt direful conſequences. As you deſire the attention of your correſpondents to the ſubject which A. S. attempted to inveſtigate, I cannot forbear from troubling you with the following thoughts, which may be uſed in any manner you pleaſe.

Whether the ſmutty duſt which appears upon wheat is the minute ſeed of a plant or an animalcula, I ſhall not ſtop to examine, though I am of opinion with your correſpondent that it is the latter. But, no matter what it is; all that is neceſſary is a remedy for the diſeaſe. Agriculturiſts have for many years, perhaps for many centuries, uſed ſteeps and pickles as a preventative; and it is conſiſtent with the knowledge of every one of your readers, who is a practical farmer, that ſuch, when properly adminiſtered, are an effectual remedy againſt this baneful and diſgraceful diſorder.

What I object to in A. S.'s letter is the following paſſage:

'All

'All ſeem aware that ſteeping ſeed in pickles of common ſalt is attended with dangerous conſequences.' The doctrine, here meant to be inculcated, I deny, in the moſt expreſs terms; and, for a trifling premium per acre, will undertake to inſure the whole ſeed of England from injury by pickling, and the crop from being damaged by ſmut, providing the following *recipe* is judiciouſly applied.

Steep your wheat five or ſix hours in water brought from the ſea, which will ſave expence, if it can conveniently be got; but if at too great a diſtance from the ſea, ſteep it in common water ſalted, till it is ſtrong enough to ſwim an egg, ſtirring it frequently. Procure freſh unſlacked lime from the kiln, and when you begin to let the water off, ſlack your lime with a ſmall quantity of it; when the water is completely drained off, turn the wheat out of your tub, and to every buſhel of it allow a peck of lime; ſprinkle this over it, and keep ſtirring the whole with a ſhovel till they are completely mixed, ſo as every grain may receive a ſhare. When dry, it is ready for ſowing; but ſhould the lime prove troubleſome or dangerous to the ſeedſman's eyes, ſome more water may be thrown upon it; for when the lime is dry, the cure is effected. If the wheat is meant to be drilled, ſift the lime upon it, in the firſt inſtance, and from it afterwards.

The lime, I am perſuaded, is the grand *panacea;* and I only recommend ſalt water in preference to freſh, becauſe the lime adheres more cloſely to the grain, when the former is uſed. The principal difficulty in the proceſs lies in the mixing of the wheat and lime completely together, ſo as every kernel of the wheat may receive its due proportion of lime; for unleſs this is carefully attended to, danger will not be prevented, every kernel that eſcapes the lime being liable to receive and propagate the diſeaſe. I once witneſſed a caſe, which has fixed me moſt firmly in the opinion that freſh lime is abſolutely neceſſary to accompliſh a cure. A very experienced and intelligent farmer having uſed all the wheat he had prepared for ſeed, wanted a few buſhels to complete his ſowing; and being at a conſiderable diſtance from the kiln, determined to make uſe of ſome old lime, which had been long in his poſſeſſion. I examined the crop, along with the owner, in the ſucceeding year, when it was ready for the ſickle, and found, that where hot lime had been uſed, no ſmut prevailed, but that the crop was much hurt where cold lime had been ſubſtituted.

Some caution is certainly neceſſary with regard to lime; for ſhould it be uſed when not properly ſlacked, the great degree of of heat thereby occaſioned would deſtroy the vegetative principle of the ſeed; but if applied with the precautions recommended, I am perſuaded that the liming and pickling, ſo far from proving prejudicial,

prejudicial, may, in some slight degree, act as a manure. I have practised the method of pickling now described for more than twenty years, and never suffered injury from smut. Once, and once only in that time, during my absence from home, and when my regular seedsman was indisposed, the process was left to an inexperienced hand; and I was a material sufferer, by his applying the lime without slacking it sufficiently. I am yours, &c.

Norfolk, 1804. T. W.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

SIR,

I believe that the insertion of poetical articles forms no part of your plan; yet I hope a deviation from it, in favour of the enclosed Elegy, will not be unacceptable to the majority of your readers. The Elegy now sent you was written shortly after the nation lost that eminent agriculturist, the DUKE of BEDFORD, and originally circulated among the members of a private Society, who considered themselves as greatly benefited by his noble exertions. From a member of that Society I received a copy of the Elegy, and was permitted to request its insertion in your valuable Magazine. I am yours,

A FRIEND TO AGRICULTURE.

An Elegy, sacred to the Memory of the Most Noble FRANCIS RUSSEL, DUKE of BEDFORD, *&c.*

WHAT sounds of woe from *Woburn* groves resound!
What plaintive murmurings fill the rural plains!
Why hangs yon gloom *Augusta*'s towers around?
Why pours *Britannia* sad the sorrowing strains?

Her much-lov'd Lord sweet *Woburn* sad bewails,
Their Patron gone, the sylvan meads deplore;
In mournful gloom her woes *Augusta* veils,
Britannia weeps that BEDFORD is no more!

Ah! BEDFORD gone!—who can the tear restrain?
What bosom bleeds not at his early doom?
Oh! virtue, grandeur, excellence, how vain!
Nought can avert the triumphs of the tomb!

In

In life's gay morn, bright did his beauties ſhine,
Each charm bloom'd fair, each virtue glow'd ſerene;
Joy ſmil'd around, Peace ſtrew'd her ſweets divine:
And Hope, exulting, hail'd the bright'ning ſcene.

As youth roll'd on, ſtill fair the proſpect glow'd,
His noble form increaſing charms aſſum'd,
Truth fir'd his breaſt, love all its warmth beſtow'd,
And each lov'd grace in ſmiling ſweetneſs bloom'd.

To ſtore his mind with wiſdom's choiceſt ſweets,
With ardour fir'd, and emulous to excel,
He ſcience rang'd, explor'd the Muſes' ſeats,
And roam'd the haunts where Taſte and Genius dwell.

In bloom of life, grac'd with each manly art,
To grandeur, wealth, and rank's firſt honours rais'd,
RUSSEL's * fam'd deeds inſpir'd his gen'rous heart,
And all his virtues in his boſom blaz'd.

Eager the Patriot and the Sage to ſtand,
Firm, brave, determin'd, and upright he ſhone;
To check abuſe, ſubdue uſurp'd command,
And guard the Laws, the Country, and the Throne.

Bold to reſiſt Oppreſſion's tyrant ſway,
Applauding Senates hail'd his patriot ſtrain:
Exulting Freedom wak'd the daring lay,
Diſſenſion ceas'd, and Faction rag'd in vain.

Keen to repel the proud invading foe, †
And tenets cruſh, which ſocial bliſs derange.
Dauntleſs he ſtood, to ward the threaten'd blow,
Still Diſcord's voice, and blaſt the ills of change.

Yet, though he ſhrunk not from the warrior's toil,
His country's good ſtill form'd his glorious aim,

By

* The excellent William Lord Ruſſel, who flouriſhed in 1680. Of this Lord Ruſſel his Grace was the great great grandſon. After his death, his father, William the fifth Earl of Bedford, was created by King William, Marquis of Taviſtock and Duke of Bedford; and among the motives for this promotion, aſſigned in the patent, it is obſerved,—'that this was not the leaſt, that he was the father to the Lord Ruſſel, the ornament of his age, whoſe name could never be forgotten, ſo long as men preſerved any eſteem for ſanctity of manners, greatneſs of mind, and a love to their country, conſtant even to death.'

† On the threatened invaſion of France, the Duke of Bedford joined a Volunteer corps, in which the Lord Chancellor of England alſo was enrolled.

By uſeful arts to meliorate the ſoil,
Improve its culture, and extend its fame.

By him the Plough its honour'd rank reſum'd,
Flocks, tillage, herds, unequall'd luſtre ſhed;
Each form improv'd the rural arts aſſum'd,
Arts † which ſupport, and *Britain*'s grandeur ſpread.

To guide the Plough more uſeful good imparts,
Than ſkill in arms to dare the martial deed;
To ſtimulate States to ſhine in rural arts,
Is nobler far than conqu'ring hoſts to lead.

Charm'd with theſe arts, he towns and cities rear'd,
Made deſarts bloom, and groves the waſtes adorn;
Peopled lone wilds, the barren woodlands clear'd,
And bade the vallies wave with golden corn.

By taſte improv'd, fair roſe the cultur'd farm,
Flocks, herds, and villas, grac'd the flow'ry plains;
Health, peace, and joy, ſpread round each grateful charm,
Contentment cheer'd, and Plenty bleſs'd the ſwains.

Vice fled the vales, with Lux'ry's blaſting train;
Ambition, guile, and treach'ry were unknown;
Amid their toils ſoft flow'd the cheerful ſtrain,
And round the cots the Loves and Graces ſhone.

Sweet ſcenes of bliſs!—which BEDFORD bade to ſmile,
No more his preſence ſhall your charms reſtore!
Yet memory oft ſhall mark his glorious toil,
And, ſorrowing, muſe on joys that riſe no more.

'Mid cultur'd wilds where flocks untended ſtray,
Where paſtures ſmile, and golden harveſts wave,
The ſwains, enraptur'd as they roam, ſhall ſay,—
"Theſe waſtes to bloom, the noble BEDFORD gave."

Bring ſnow-drops, violets, and the primroſe bloom,
The crocus, daffodils, and hyacinths ſtrew;
With Spring's firſt flow'rs adorn his early tomb,
His ſacred urn with love's ſoft tears bedew.

Let fond remembrance mark his faultleſs fame,
Dwell on his virtues, and his deeds emblaze,—
Deeds which awak'd great GEORGE's * loud acclaim,
And ſtill ſhall flouriſh in his country's praiſe.

Yet,

† Pâturage et labourage ſont les deux mammelles de l'Etat.

* On receiving the account of the death of the Duke of Bedford, the King moſt feelingly exclaimed—"The death of ſo good a man a public loſs!"

Yet, oft as memory *Cheynies'* fane reviews,
And pours the ſigh where low his relics lie;
On nobler ſcenes let raptur'd fancy muſe,
Unveil the climes where BEDFORD lives on high.

Time does not end that life man here deplores,
Nor death the ſoul's unbounded pow'rs deſtroy;
Looſe from the world, on angels' wings it ſoars,
And, free, expatiates the bright realms of joy.

Far beyond ills, by ſeraphs crown'd above,
He joins the juſt in bow'rs of bliſs reclin'd;
Drinks life's pure ſtream,—adores Creative Love,
And to its ſource exalts his boundleſs mind.

Yes; doom'd by Heaven, the good ſhall never die,
For endleſs glory Virtue's toils ſhall crown;
Their honours here ev'n Time's proud rage defy,
The Patriot's name ſhall ſtill live in renown.

Still as their ſweets the flow'rs of Spring unveil,
In growing charms ſhall BEDFORD's memory ſhine;
His works of Peace *Britannia*'s ſons ſhall hail,
And deathleſs laurels round his urn entwine.

While ſocial virtue cheers life's humble ſhed,
While Patriot worth to Freedom's ſons is dear,
To diſtant climes his glorious fame ſhall ſpread,
And lateſt time his honour'd name revere.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Upon Straighting Ridges.

SIR,

YOUR Publication came into my hand only of late, for which I am ſorry, as I have not hitherto peruſed any thing of the kind which has afforded me ſo much ſatisfaction. Give me leave, at this time, to add my mite to the large ſtock of information tranſmitted to you, which I hope may find a corner in your uſeful Repoſitory.

In your third volume, page 278, ſome very good hints are offered reſpecting ſtraighting ridges, a ſubject of much importance to the agriculturiſt, as this operation tends both to facilitate the execution of labour, and to beautify and improve every branch thereof. I believe few perſons have ſtraighted more ridges than I have done, eſpecially upon wet clay ſoils, in which ſituation

ſituation the operation is undoubtedly moſt difficult to execute; whereas on dry ſoils, very little judgement or ſkill is required to accompliſh this change, with ſafety to the ground and advantage to the occupier.

In 1794, I fallowed and ſtraighted a field of about thirty acres, which had been oats the preceding year. The ſoil was a wet clay, and the ridges were very unequal in breadth, from ten to thirty feet, intermixed with butts or guſſets, which are always detrimental to ſuch lands, as they occaſion the ploughs, &c. to turn often upon the other ridges, by which means the prints, or marks of the horſes feet, are left unfilled up. The firſt operation conſiſted in cleaving down the ridges. The field was then ploughed acroſs, and thoroughly harrowed; but before the broad ridges could be brought to a level, ſeveral ploughings were neceſſary, which were accordingly given. The ſeaſon, however, was far advanced, before theſe neceſſary operations could be effected; and, as lime could not at this time be applied with advantage, I was under the neceſſity of laying it up in heaps, in an adjacent graſs field, ſo as it might be expeditiouſly laid on whenever the field was ſtraighted. The next conſideration was, to form the ridges in ſuch a manner, as to prevent water from ſtagnating upon the ground. With this view, I run them partly eaſt and weſt, and partly north and ſouth, as the level would admit. When the ridges were thus formed and gathered up, the lime was applied, and a good croſs-harrowing given, in order to fill up the furrows.

It being now the latter end of October, and the weather very wet, I thought it advantageous, in giving the ſeed-furrow, to yoke the horſes in line, and not abreaſt, as is the uſual practice. At this time, ſome well meaning old-faſhioned farmers in the neighbourhood appeared very zealous to correct my miſtaken ideas:—they even called out to my ſervants, 'What! is your maſter going to ſow wheat there? He will repent if he does. Tell him he has ſpoiled the field for years to come.' Theſe kind advices and exclamations, however, had but little effect. I was determined to ſhake myſelf out of the trammels of the old ſchool, and accordingly went on with my operations. The whole field was ſown on 6th and 7th of November, and the braird appeared about the beginning of December. The weather having been wet for ſome days after the wheat was ſown, it appeared rather thin in March, but always retained a dark green colour. It improved much during the ſummer months; and, at harveſt, turned out as good a crop as ever I ſaw upon ſuch poor wet ſoil, the produce per acre being from 32 to 34 Wincheſter buſhels of good marketable grain. Next year I ploughed

ploughed the field again, and fowed one half with oats, and the other half with peas, both which were as good crops as could be expected. Perhaps it may be thought that I fhould have fown grafs feeds among the wheat; but it is my opinion, that, when ridges have been altered, a fecond fallowing is neceffary, before the field can be profitably laid down in grafs. Laft year, I ftraighted a fmall field in the above mentioned way, which has anfwered my expectations to the full. It was fown with grafs feeds, which at prefent promife well.

The advantages refulting from the practice of ftraighting ridges are obviouſly many and great. More work is performed both by plough and harrows, and to better purpofe, in a given fpace of time. Much feed, too, is faved; for when the ridges are at or below eighteen feet in breadth, which they ought never to exceed, two caſts will fuffice; whereas, in their former ſtate, three or even four caſts will be neceſſary in ſome parts, and in others, one will be too much. Straighting ridges, and making them all of one ſize, alſo greatly furthers harveſt work, as it is well known, that ſhearing is more expeditiouſly performed upon them, than upon thoſe that are unequal with one another, or ſuch as are broad at one end and narrow at the other. The laſt, though not the leaſt advantage, which I ſhall notice at preſent, is, that wheat is not ſo apt to canker upon ſtraight as upon crooked ridges. I will not now inquire how this comes to be the caſe; but leave it to the conſideration of thoſe who delight in abſtract philoſophical reſearches:—it is ſufficient for me to be aſſured from experience that it is ſo.

It is much to be regretted, that the practice I have been deſcribing is not more generally attended to. Were landlords to give marks of approbation and encouragement to ſuch of their tenants as they obſerve to be active and enterprizing, it would have a powerful tendency to promote agricultural improvement in general, as well as the particular practice I have been recommending. This, however, is a thing rather to be wiſhed for than expected; for, at preſent, the man of energy and exertion, and the ſloven, are treated in the ſame manner by the generality of landlords, who conſider the receipt of their rents as their whole concern in the matter. Prejudice, too, is a great enemy to improvement. If an old-faſhioned farmer happen to breed a ſon in that line, he is ſure to caution him againſt all innovations, both in principle and practice. 'See,' will he ſay to him, 'what a fortune your grandfather made. Could he have done this, think you, had he followed the fooliſh notions of ſome farmers now-a-days about ſtraighting ridges?' &c. &c. Thus, from time to time, he inſtils theſe ideas into the young man, who

who has not perhaps penetration enough to diſcover that his grandfather amaſſed wealth, not in conſequence of farming in a ſuperior ſtyle, but in conſequence of an advantageous leaſe from the proprietor, to whom, it is probable, he did not pay as much rent as is now demanded for the corn tithe of the ſame poſſeſſion.

Allow me, Mr Conductor, a few words on the improvement of waſtes, and I have done.

It is really ſhameful to obſerve what quantities of land are lying waſte in different parts of the country, which might be rendered profitable to individuals, and to the public, were proper means uſed for that purpoſe. As farms in general are now let at rack-rent, and on ſhort leaſes, it cannot excite ſurpriſe, that farmers ſhould decline laying out their capitals in undertakings, from which time will not perhaps allow them to reap an adequate return. In ſuch caſes, the proprietor ought to put his ſhoulder to the burden, and bear, at leaſt, a part of the original outlay, which muſt be conſiderable; and if he underſtands his own intereſt, he will do it cheerfully. Where ſtones are to be removed, or drains cut, theſe things ought certainly to be done at his expence; and he ought alſo to bear one half of the ſum that may be neceſſarily expended in purchaſing lime. Suppoſe twenty acres, or even a leſs quantity, thus improved every year, how much would the appearance of his property be altered, as well as the value thereof increaſed in a ſhort time, and what advance of rent might he not expect at the expiration of the leaſe? An acquaintance of mine has poſſeſſed a farm for about twenty years, conſiſting of nearly equal portions of good rich land and waſte; and during all that time a ſingle acre of the waſte has not been improved. The reaſon is plain,—the proprietor will give no aſſiſtance; and the tenant, who finds he can live comfortably by the good land alone, will not embark ſingle-handed in ſo arduous and hazardous an undertaking. Thus, a large quantity of ground, not of the worſt quality, continues, and it is probable will continue, in an unproductive ſtate, till ſome future proprietor ſhall ariſe, who may ſee it to be his intereſt, as well as his honour, to adopt a ſyſtem diametrically oppoſite to that of the preſent one.

Northumberland, 1804. COQUETTUS.

TO

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

SIR,

IN the ſtrictures Sir George Mackenzie is pleaſed to make on your correſpondent A. S.'s letter relative to the analyſis of lime and marl, I obſerve he expreſſes a wiſh to be informed what was the one half *per cent.* reſiduum, or alloy, contained in the lime he mentions as belonging to me. As this ſeems to imply a doubt of the fact, I conſider myſelf called upon to tranſcribe a letter to me from the Reverend Mr Headrick, well known as a mineral ſurveyor, and a gentleman of literary merit, as I preſume it was by a peruſal of that letter A. S. obtained his information. I beg leave to remark, that I had Mr Headrick's permiſſion to make full uſe of his name, and that he took the trouble to cauſe the workmen give him fair ſpecimens of the different ſtrata, which he packed up, numbered, and took to Edinburgh with him; and he aſſures me, that he conducted the proceſs of analyſis with ſtrictneſs and accuracy.

Extract of a Letter from the Reverend Mr Headrick to Mr Low of Annfield, Fifeſhire.

'Sir,—I have juſt finiſhed the analyſis of your limeſtone, and I confeſs that the reſult aſtoniſhes me. It turns out to be the pureſt ſtratified limeſtone that ever paſſed through my hands. I have met with ſome fine ſparry limeſtone, which entirely diſſolved in acids, without leaving the ſmalleſt alloy or refuſe; but all the ſtratified limeſtone I ever before examined run from 60 to 85 *per cent.*; and I had even laid down 85 as the *maximum* of ſtratified limeſtone, becauſe I never ſaw it exceeded, except in one inſtance, and that was 90 and ſome fractions.

'Though bare inſpection ſhowed yours to be very good, I was not prepared to expect it to be ſo pure as it actually is. The ſtrata were examined in pairs, as they were put up in the papers, and, as nearly as I could gueſs, in the ſame relative proportions with the ſize of the pieces. The whole was conducted with the utmoſt rigour, and the following is the reſult.—No. 1. viz. the higheſt and thin ſtratum below it, contained of carbonate of lime, 94½ parts in 100. No. 2. being 3d and 4th ſtrata, 98 in 100. No. 3. being 5th and 6th ſtrata, 99 in 100. No. 4. being 7th and 8th ſtrata, 99½ in 100. The laſt number contained a ſmall fraction more of carbonate of lime, which my inſtruments could not meaſure, and therefore I gave it againſt the ſtone. The alloy or refuſe, in all, was fine clay. No. 2. & 3. contained a few particles of ſand. All the ſpecimens contained a portion of tar and coal culm. I threw the tar out of the calculation, but could not get rid of the culm. In fact, theſe ingredients cannot be conſidered as alloy, becauſe they are utterly con-

ſumed in the burning of the ſtone; and, as far as they prevail, aid the burning. The only way to aſcertain what proportion the culm bears to the maſs, is to analyze the lime after it is completely burnt. Were this done, I have no heſitation in ſaying, that your limeſtone approaches more to abſolute purity than the Sunderland, or, perhaps, any other limeſtone in the world.

'You can eaſily ſee the great utility of chemical analyſis. I have often pitied a poor man, when I ſaw him taking a long journey, and loading his carts with a greater proportion of clay or ſand, than of pure lime; or when I ſaw him carrying even good lime imperfectly burnt.

'Were all limeſtone analyzed, every man would know what he was doing who uſed lime; and thoſe who ſerve the public with lime ſhould take care that it is well burnt, otherwiſe they impoſe upon their cuſtomers a load wholly uſeleſs to them. When lime is to be uſed on the ſpot where it is manufactured, theſe things are of leſs importance; but when conveyed to any diſtance, they are of the utmoſt moment.'

The above, Sir, is a literal tranſcript of Mr Headrick's letter; and I preſume Sir George M'Kenzie will conſider it as a full anſwer to his queſtion. I beg leave to think that he has made rather ſtrong remarks on A. S.'s letter, eſpecially as his own manner of analyzing lime and marl ſeems to turn out the ſame as that of A. S., whoſe only error Sir George concludes to be a too great confidence in the correctneſs of the apothecary who prepares the acid. It might perhaps be well that every drug an apothecary may ſell was alſo previouſly purified. But does the phyſician doubt the pure quality of the medicines he preſcribes to his patient from a creditable laboratory? No: he preſumes them pure as they ought to be. Muſt not candour therefore pronounce many of the obſervations of Sir George to be frivolous; and as it is not neceſſary to farmers to learn to analyze lime to *minuteneſs*, A. S. ſeems to go as far as eſſential in directing them how to know the comparative value of different limes. The experiments would naturally be made on the different limes at the ſame times by the *ſame acid*; and the different reſults would be ſo very nearly in the ratio of their purity as to be a matter of little moment to carry the proceſs to mathematical exactneſs. I beg alſo to remark, that A. S.'s theory of analyzation is not only the ſame as that of the great chemiſt Dr Black, and the Biſhop of Llandaff, but that of Sir George himſelf, with this diſtinction only, that he does not conſider it as abſolutely eſſential to aſcertain whether the alloy be ſilex, argil, or oxyd of iron. I remain, Sir, your moſt obedient ſervant,

Annfield, Oct. 2d, 1804. ALEX. LOW.

TO

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

SIR,

As your Magazine is solely devoted to the purposes of agriculture, every fact, and every experiment that tends to enlarge our knowledge, and to promote the ends of that great national concern, ought to have a place in it. I am induced, from this motive, to lay before you an experiment upon a small scale, which I never heard had been made before, but which may in time become of great public utility, if it shall be found, upon farther trial, to succeed as well as in the case to which I allude. You may fully depend on the truth of the fact itself.

A friend of mine having occasion to observe the partiality of black cattle for the common garden parsley, and their preference of it, when growing, to almost any other green food, took it in his head to try how it would succeed in a field that he was going to sow down for pasture. He accordingly sowed two or three ridges with parsley seed, and the rest of the field with clover and ryegrass. As soon as the field was ready for pasture he led his cattle into it, and it was perfectly evident that they preferred that part which was sown with the parsley to any other part of the field, insomuch that they never touched the rest while there was a single blade of parsley to be had. Horses were equally fond of it. He had not an opportunity to try sheep upon it; but the probability is, that they would, if possible, have been fonder of it, and thriven better, than any of the other two. This, therefore, seems worthy of a farther trial. We know that black cattle, sheep, horses, and indeed every other animal, always prefer that food (when they have it in their power to make a choice) that is most agreeable to them, and most conducive to their health. We know also that parsley is a most wholesome vegetable for the human species. It is a powerful antiseptic. If we were to reason from analogy, we should suppose that its beneficial properties should extend to the animal creation in general. As it is a perennial plant, it will answer well for fields that are to be laid down for pasture for a considerable while. Sheep, in particular, being of a tender and delicate constitution, and especially subject to bowel complaints, its antiseptic quality may be of great use to correct these. The difficulty may be at first to get the seed in any considerable quantity; but that may soon be remedied, if the experiment be thought worth while. I would suppose that the ground upon which it is sown must be good, in good condition, and clean, otherwise it will not have a fair trial.

AGRICOLA.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

SIR,

I thank you for the honour done me in inserting a paper of mine in your last Number. Conceiving it of importance to communicate the remarks I have made on the present crops, in the course of a journey through several counties of the kingdom, I shall now (when I have arrived at a place where I generally stop for some time) endeavour to transmit my opinion, so as to reach you in time for publication in your next Number, should you deem it worthy of insertion.

Upon dry lands, and the best loams, I think the crops of wheat, oats, barley and rye, are generally as bulky as those of last year, and beans and peas considerably more so. Upon all other kinds of land, they appear to me not to exceed three fourths of the bulk of 1803. From what information I can collect, the yield from the straw is not so great as in the preceding season, more especially that of wheat. Some accurate husbandmen have stated, that the quantity of that grain, which, upon most lands, was last year the produce of about six stooks (or 72 sheaves), can this year scarcely be obtained from 8 stooks; that the quality is generally inferior; that in various districts of England, several fields are so much injured by blight and mildew, that their scanty produce will not weigh three fourths of the usual weight per bushel; and that smut is unusually prevalent. My own observations, I am sorry to say, have fully proved the truth of these statements as to blight, mildew and smut; and I have but little doubt of that regarding the yield and quality. Beans and peas are reckoned, upon the whole, a very productive crop; but proper trials have not yet been made. The quality of barley, oats and rye, is good; the quantity of land, however, which was last spring sown with the former grain, was much less than usual, which militates against the arguments of those who think that low prices will extend aration, and secure plenty. As most of our tillage lands are either strong or wet, I conclude that the present crop will not prove so productive as that of last season. I hope, however, that this misfortune will be imputed to the real cause, adverse weather, especially to an extreme wet and late spring.

Several weeks ago, I read in the Tyne Mercury a paper, of which the following is a copy; and as I have understood, for some years past, from information received from eminent breeders, both in the midland counties, and in the north of England, that

that the new Leiceſters were by far the moſt profitable breed of long-woolled ſheep, I aſſure you, Sir, I was not a little ſurpriſed to hear that the opinions of its author have not been controverted by ſome of the followers of the celebrated Bakewell.

(COPY.)

'TO THE EDITOR OF THE TYNE MERCURY.

'SIR,

'For a ſeries of years, it has been faſhionable for certain newfangled breeders in the county of Northumberland, and North Durham, to extol, without diſcrimination or exception, all kinds of the Leiceſterſhire breed of ſheep (in which the name of *Culley* has been uniformly introduced), and to diſparage as indiſcriminately all other kinds of ſtock. Without entering into the patriotiſm or liberality of ſuch ſweeping kind of concluſions, wherein the good qualities of every other ſpecies of ſheep in Northumberland are kept entirely out of view, an opportunity has only lately preſented itſelf, wherein I have diſcovered not only the illiberality, but the falſity of their general reaſoning. In the Farmer's Magazine, I have obſerved many communications from Northumberland, in which this doctrine is held forth; and in particular, the Number for Auguſt 1803 contains a paper, ſigned 'A Northumberland Farmer,' wherein it is aſſerted, that Mr William Charge late of Chaſby, on the Yorkſhire ſide of the Tees, brought tups of the Diſhley, or new Leiceſter breed, to Morpeth, before the Culleys brought any, and ſold them there at no great prices. Mr Henry Grey of Bamborough, and ſeveral others, who were in poſſeſſion of the large improved breed of Bamboroughſhire, bought ſome of theſe tups, and were wonderfully benefited; but for want of knowledge in not continuing that blood, and croſſing them again with the large Tees-water breed, they ſoon loſt the benefit of the firſt valuable mixture.' In this quotation, there ſeems a kind of reflection upon Mr Henry Grey's 'want of knowledge,' that looks ſo like a puff direct in praiſe of Mr Culley's exertions, and his ſuperior knowledge, that we can eaſily perceive the object of contraſting the one with the other. But without glancing at the merit (if there was any) of attempting to croſs any ſpecies of ſheep with the Bamboroughſhire, I will prove that the Bamboroughſhire, the unadulterated Bamboroughſhire breed of ſheep are at this preſent moment ſuperior, in point of ſize, weight, and quality of wool, to any of the Leiceſterſhire ſheep that ever were reared or improved by Mr Culley. There is at preſent one of the moſt opulent and reſpectable farmers in Bamboroughſhire, a man who can well judge of the real advantages to be obtained in diſcriminating betwixt one

ſpecies of ſheep and another—one who has never adopted the plan of croſſing his ſheep with the Diſhley or Leiceſterſhire breed, nor ever in his life was known to give above 50s. for the uſe of a tup for one ſeaſon. From this farmer, one of the moſt eminent butchers in Northumberland has repeatedly declared, (and will prove, if required, what I aſſert), that he has bought from him and killed, this year, the beſt lot of ſheep, which were of the old Bamboroughſhire breed, that ever he killed in his life. The number of the lot was not leſs than eighty. I leave you and the public, therefore, to judge of the merit of the Leiceſterſhire breed, and that of the Bamboroughſhire.

VERITAS.'

Being lately in Northumberland, I inquired particularly as to the ſize and weight of the eighty ſheep ſo highly extolled in the above paper, and generally received for anſwer, that they were well found, and weighed, upon an average, (when two years old) 34 or 35 lib. per quarter. I obſerved that the heavieſt ſheep were not the moſt profitable, and adverted to the controverſies between the advocates of the Lincolnſhire, and thoſe of the new Leiceſterſhire breeds; ſtating that, probably, the latter would have raiſed more money *per acre* for their food than the Bamboroughſhire ſheep. Though, individually, leſs in ſize and weight, I aſſerted, that the new Leiceſters conſumed proportionally leſs food than any other breed. I was aſked for proofs, and advanced the opinions of ſome of our moſt eminent breeders. Theſe, however, the advocates of the large ſheep refuted, by ſtating, that accurate comparative trials had demonſtrated the contrary; that ſome of theſe experiments were referred to by your correſpondent *Paſtor junior*, in your Fifteenth or Sixteenth Number; that they have not been diſcuſſed by any of the breeders of the new Leiceſters, or any other contributors to your work. Here I was ſilenced, but not convinced; and as my opinion is ſtill favourable to the ſuperior merits of the Diſhley breed, I could only ſay, that upon going into the weſtern counties, I will make very minute inquiries as to theſe experiments, and perhaps communicate the reſult to you for publication. In the mean time, I ſhould be glad if ſome better informed correſpondent would inveſtigate the comparative merits of the different breeds of the long-woolled ſheep; for I cannot but conſider it injurious to the community, that impreſſions ſhould be made in favour of the *huge* ſheep mentioned by *Veritas*, and am, yours, &c.

VIATOR.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Thoughts on the Poor Laws, and preſent State of the Poor in Scotland.

SIR,

In your Number for February laſt, I met with a very rational and intelligent letter upon the poor laws of Scotland, containing a juſt repreſentation of their general effect upon the manners of the people, and drawing a ſtriking contraſt betwixt the Scotch and Engliſh ſyſtems.

This is no doubt a ſubject directly connected with agriculture; for, whatever tends to operate in a particular manner upon the habits and opinions of the people, muſt more or leſs affect the ſucceſs of their common employments, and is therefore a proper ſubject of public diſcuſſion.

There is one ſhort paragraph, however, of the communication I allude to, which is not altogether in uniſon with my ideas on the ſubject. That I may be the better underſtood, I ſhall copy the paſſage; and, ſhould your correſpondent Agricola chance to ſee my obſervations in your Magazine, his good ſenſe will probably prevail on him to allow that I am not entirely wrong. 'Notwithſtanding that the lateſt unrepealed acts of our Scots Parliaments evidently authoriſe this ſtenting or taxing, when abſolutely neceſſary; yet the good ſenſe of the nation ſeems to have declined this pernicious ſyſtem, at leaſt in country pariſhes, and it may be now ſaid to have nearly gone into deſuetude, as a meaſure of common and ordinary regulation. There are only a very few pariſhes in Scotland, where this ſyſtem of taxation for the poor prevails; and theſe, to their ſad experience, feel the bitter conſequences of it, in the increaſe of their poor and poor's rates, and all the conſequent idleneſs, profligacy, and want of foreſight and frugality which muſt ever accompany a too liberal proviſion for the poor in any pariſh.'

I do not pretend to contradict any thing ſtated as fact by your well informed correſpondent, but as little am I diſpoſed to agree, that the principle or practice of ſtenting or taxing, according to law, for the ſupport of our moſt indigent and infirm fellow creatures, ſhould be totally and perpetually laid aſide, even in country pariſhes.

I admit that the ſyſtem is apt to lead to abuſe, and, if unwarily adminiſtered, is fraught with pernicious conſequences; yet I cannot avoid thinking that abuſes may be guarded againſt and prevented.

For what purpoſe are men endued with diſcretion, foreſight and prudence, if theſe qualities cannot be exerted in the plaineſt affairs?

I would therefore proceed, in this caſe, with a delicate hand, only allowing the plan to take effect for the ſupport of the moſt deſerving and indigent objects, always endeavouring 'to draw the proper line of diſtinction betwixt calloufneſs of heart, and indifference about the concerns of the poor, on the one hand,' and too liberal proviſion for their ſupport, on the other. I know ſomething of an inſtance of a poor deranged perſon being maintained in this way; and I would only recommend ſimilar relief to be extended to ſuch as are in abſolute neceſſity, being unable either to work or beg. Of ſuch objects of diſtreſs in country pariſhes, the number, I dare ſay, will not be found much to exceed the average of one in two hundred of the whole population. Where there are no rates or aſſeſſments in uſe, theſe deſtitute beings are almoſt wholly ſupported by a few individuals, whoſe benevolence and charity are excited in a much higher degree than that of their perhaps more wealthy neighbours. By theſe means, the burden is partially born, and material injuſtice takes place in the community. The miſer continues to hoard, and the ambitious man to aggrandize, whilſt the man of humanity and charity pays for all the three; for, in the maintenance of the objects I at preſent allude to, the Sunday collections, or any other common pariſh funds, go but a ſhort way. For ſuch, therefore, legal aſſeſſments ſhould be levied, and applied with all œconomy and good will. No doubt it has a very unfortunate effect to indulge the people in the opinion, that their pariſhes are to provide for them as ſoon as they are unable ſufficiently to provide for themſelves. Yet it is cruel and unneceſſary to inculcate the belief, that, in caſes of great infirmity and extreme old age, accompanied by unavoidable poverty, no extraordinary public ſupport is to be beſtowed, but that, excepting the ſcanty allowance from common pariſh funds, dependence can be placed alone on the precarious charity of unfeeling relatives and accidental neighbours. This is adding to the bitterneſs of misfortune's cup, and induces the poor man to believe that he has worn out his ſtrength, and the vigour of his days, in the ſervice of an ungrateful community.

In the part of the country with which I am moſt acquainted, many of the heritors reſide little on their eſtates, and ſome of thoſe that do, as well as the majority of the former, are extremely inattentive to the concerns of the poor; for it rarely happens that a diſpoſition to do good, increaſes along with the means to gratify it. On the contrary, opulence and avarice frequently meet in the ſame individual, and benevolence gradually diſappears as riches accumulate. Further, the country gentlemen are often not very exemplary in their attendance on public worſhip. Some rarely attend

attend at all; ſo that the Sunday collections are, comparatively, little augmented by their donations. Where this is the caſe, the ſtatutes reſpecting the poor, in all juſtice, ought more or leſs to be brought into practice. To my certain knowledge, the heritors in many pariſhes, in place of defraying the half, do little more than defray the tenth part of the contributions for the poor; and no one can deny that this is palpably unlawful and unjuſt.

I am informed, that aſſeſſments are not uncommon in Perthſhire; and I have heard particularly of one pariſh in that county, where, in order to avoid the aſſeſſment, the heritors make a practice of doubling the ordinary collections at church; that is, if the collections amount to 10l. in a given time, the heritors contribute other 10l. This is certainly a fair and honourable compromiſe, and I am ſorry it is not more general.

I am ſenſible, that aſſeſſments for the poor are a bugbear to many, merely from the want of reflecting how eaſy it might be to avoid abuſes in going through with the undertaking. They immediately tell you of the poors rates of England, and ſagely aſk, if 48s. on the pound be not a pretty ſerious burden. This is talking to no purpoſe. They might, with fully as much reaſon, reſolve never to touch the ſocial glaſs, becauſe they have heard or known inſtances of perſons drinking themſelves to death, or, what is more common, of diſſipating all their ſubſtance in that way.

It may ſafely be ſuppoſed, there is as much temptation in the one practice as the other, however odd the compariſon.

I would certainly be an opponent to any extent of aſſeſſment that would have the ſlighteſt tendency to relax the induſtrious and œconomical habits of the people; and that evil might be eaſily prevented by uſing a moderate ſhare of prudence and local knowledge.

I cordially agree with Agricola in all his other obſervations. He has excellently deſcribed the impoſitions practiſed upon the inhabitants of country pariſhes by the vagrant and profligate poor of the towns. This, in many parts, amounts to an intolerable nuiſance, and is ſhamefully overlooked by the reſident Magiſtrates of the country. Theſe wretches, who are moſtly the offſcourings of ſociety, haraſs the country in continual ſucceſſion, not only extracting the worſt beſtowed charity, but levelling fences, breaking into encloſures, and occaſionally ſtealing what they can conveniently carry off. Indeed, the Juſtices of the Peace now and then iſſue orders at their quarter-ſeſſions to conſtables, to chaſe away theſe depredators, or apprehend them, &c.; but the Juſtices themſelves ſeem to be at no pains to have their orders carried

carried into execution, and, perhaps, even permit alms to be given to the vagrants at their own houſes. There ought to be conſtables in each pariſh, particularly ſet apart for this buſineſs; and theſe, if well inſtructed and well paid, would quickly redreſs the grievance.

In the ſouthern and weſtern diſtricts of Scotland, there are frequent arrivals of whole families of beggars from Ireland, who are generally allowed to infeſt the country, and pillage the inhabitants without moleſtation. This practice is of long ſtanding. I have even heard it affirmed, that in the north of Ireland, it is no-way uncommon with people of this profeſſion to migrate, when they have finiſhed the planting of their potatoes, on purpoſe to ſubſiſt on the charity of their fellow-ſubjects in Scotland, until their potatoes be ripe, or, as they themſelves expreſs it, until their potatoes be fit for digging; and about that ſeaſon, indeed, many of them return, though a pretty good proportion may be met with all the year round.

I apprehend it is our own police, and not the police of Ireland, which we have to blame for this abuſe. In this caſe, our negligence and ill-judged tenderneſs are injurious to the induſtry and good order of the Iriſh themſelves, and afford encouragement to their immorality and idleneſs. I am convinced, the better informed people of Ireland would give us more thanks, were we to put a total ſtop to the practice. Iriſh labourers are extremely uſeful in theſe parts of Scotland; but, for Iriſh beggars, there is no occaſion.

But, to return to the ſubject.—There is ſtill another method of providing for the wants of the poor, which Agricola has been ſilent on, and which I do not at preſent remember to have ſeen at any time taken notice of in your Magazine. What I mean is, the eſtabliſhment of Parochial Friendly Societies, conſiſting chiefly of handicraftſmen and labourers. Theſe, it is very properly obſerved, 'are founded on one of the wiſeſt maxims in the code of human policy, namely, that it is eaſily in the power of the many to help the few.' This is a ſubject of ſo much real utility and importance, that I will not pretend to ſuppoſe it has always eſcaped your attention. A contribution of two or three pence in the week can be felt by no man who earns common wages; but the relief that five, or poſſibly ſeven ſhillings in the week, affords to the ſick, the lame and the aged, becomes very comfortable. This ſyſtem, operating in favour of œconomy and induſtry, is completely oppoſite, in its effects, to rates and aſſeſſments. The latter are only ſubmitted to as a neceſſary evil: the former is the object of choice and approbation, and ſhould be cheriſhed and ſupported by every one wiſhing well to his country.

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I will not inſiſt farther on this ſubject at preſent, but would take leave to refer inquirers to the papers publiſhed by the Bath and Weſt of England Society, of which I have occaſionally peruſed the greater part of the firſt eight volumes. I may add, that premiums have been long ſince given by that reſpectable Society for encouragement of theſe inſtitutions.

I am much diſpoſed to attempt the inſtitution of a ſociety of this kind in the pariſh where I at preſent live, but would be happy to read your ſentiments before moving in the undertaking. I hope you will call the attention of the public to this ſubject, in which no claſs of the community are more directly intereſted than proprietors of lands, as it tends to relieve their property from the moſt conſiderable incumbrance, and to promote that induſtry and frugality, in the happy effects of which they will evidently have ſo large a ſhare. Suppoſing you were to favour the public with a few plain regulations for theſe ſocieties, and communicate the moſt neceſſary information, I dare ſay it would be productive of beneficial conſequences. The ſanction of the Farmer's Magazine is become no trifle, and I flatter myſelf it will continue more and more reſpectable.

Having very lately received your laſt Number, with great pleaſure I ſeize this opportunity of expreſſing my warmeſt applauſe of the elegant communication which begins the Number, entitled, 'Conſiderations on regulating the Value of Labour.' Were ſuch ſentiments as therein diſplayed, general amongſt landlords and men of conſequence in the country, there would be fewer complaints of the irkſomeneſs and inconveniences of the ſituation of the tenantry, or of the obdurate pride and petty tyranny of ſome of our great men.

With much reſpect and eſteem I ſhall venture to ſubſcribe myſelf

Wigtonſhire, Oct. 1804. AGRICOLA JUNIOR.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

On the Engliſh Poor's Laws.

SIR,

WITHOUT entering much into the details of the management of particular pariſhes, I ſhall make a few curſory, but, I hope, well-founded remarks, on the ſubject in general, as a municipal regulation. The tax for the expreſs purpoſe is collected by the overſeers of the poor, after a certain ratio or pound rate, on the average value of the tenure; an impoſt, now amounting, in ſome years,

years, to a conſiderable proportion of the rent, inſomuch as to bear extremely hard on the middling and lower claſſes of occupants of land, many of whom, in this pariſh, are not better provided for than ſome of thoſe families which receive relief from the poor's rate, were ſuch families ſufficiently induſtrious and careful. But the certainty of relief held out by the poor's rate fund, by removing far from a man's eyes the proſpect of famine to his family, baniſhes all ſtimulus to exertion of induſtry and œconomy. For why ſhould *he* deny himſelf the dear pleaſures of the village alehouſe, whoſe wife and children will ultimately be provided for, independently of his labour and care, and at the coſt of other people, whatever may be his own extravagance and exceſs there? Inſtances of this ſort may be adduced, that are truly diſguſting. I have paid, during my reſidence in a neighbouring pariſh, to a perſon who worked for me as a maſon, upwards of 100l. in the courſe of a ſummer, and, at the very commencement of the winter, I was a witneſs to his wife's obtaining from a neighbouring Magiſtrate, relief of not leſs than 9s. per week, to be paid her out of the poor's rate, when it might have been proved, that the money of the huſband's earnings had been diſſipated in the moſt extravagant way.

The ſyſtem is fundamentally bad, and generally the moſt profligate are the ſole gainers by it: conſequently, holding out ſuch funds almoſt indiſcriminately, muſt have a tendency to produce much immorality, and heedleſsneſs of the future, among the poor themſelves; thereby fruſtrating every good intention of the law, and creating poverty, the very evil intended to be remedied by it. Doubtleſs the widow, the diſabled and deſtitute, muſt be provided for; but the beſt mean of doing it, is well worth the conſideration of every one who is concerned in the ſupport of good order, and attentive to the wants and neceſſities of others.

It may not be unreaſonable to inquire a little into the cauſe and origin of the Engliſh poor's laws, as they now ſtand; for they were enacted in the reign of Elizabeth, only as a partial remedy for the previous embezzlement of the poor's fund among other public funds, by her rapacious and tyrannical father Henry VIII., at the time of what is uſually ſtyled the Reformation. Before that period, the poor were relieved out of a certain proportion of the parochial tenths or tithes, ſet apart for that purpoſe, as a contingency of their grant. Theſe were originally the effects of voluntary contribution, which, it may eaſily be proved, had for its object the proviſion for the poor, as well as for the clergy, &c. &c. They were greedily ſeized by the tyrant, and doled out again to his courtiers, his nobility and gentry, as a bribe for their ſupport of him againſt the Pope; who very juſtly threatened him with

with the utmoſt vengeance of the Church, for his ſcandalous and atrocious conduct in regard to his wives, &c. &c.—a vengeance not to be deſpiſed in thoſe days, when its influence on the multitude was ſo extenſive and powerful.

The inconvenience of theſe baſe and felonious colluſions was ſoon felt by the poor and middle claſſes of the people, who became loudly clamorous on the ſcore of their grievances and privations. The expedient of the poor's law was therefore adopted in the reign of Queen Elizabeth; the poor having, in the *interim*, ſeverely felt the loſs of that aſſiſtance they were wont to receive from the religious houſes, as their own rightful ſhare of the tithes before their ſuppreſſion; and before ſo great a proportion of the latter became the *peculium* of the nobility and gentry, by impropriation, patronage, &c. &c.

What elſe but bitter waters could proceed from ſo muddy a fountain? However, though various attempts have been made to reform this code—to aboliſh it altogether, or partially—particularly by the excellent plan of Mr Burgeſs, in which he propoſed that pariſhes and townſhips ſhould be aſſociated, in the manner of friendly clubs or ſocieties reſpectively, to be ſubſcribed for by both rich and poor in time of health—every attempt towards an alteration has been ſteadily oppoſed by the magiſtrates, whoſe motive has been inſcrutable, unleſs it be that they are ſo pleaſed with the privilege of being kings of the beggars, that they cannot conſent to an abdication: for, under the poor's laws, their power is nearly abſolute, to the great diſtreſs of many of the moſt reputable occupants of lands.

What I can at preſent make out of the particulars of our pariſh, amounts to this: From about 1000 acres of land, about 150l. *per annum*, or 3s. 6d. per acre, is at preſent collected by the overſeer of the poor, who diſtributes it among nearly twenty objects, as he thinks fit; the amount is ſometimes much greater, and in ſome other pariſhes, many times over that ſum per acre. Theſe objects conſiſt of widows, perſons incapable of labour, militiamens' families, and baſtard children: for part of this fund is worthily held out and applied by order of the magiſtrates for the ſupport and encouragement of baſtardy, by making the father of the child liable to a part of maintenance only, the pariſh to the reſt; ſo that, in this reſpect, it frequently happens, that occupiers of ſmall portions of land, who are with great difficulty enabled to bring up their own *legitimate offspring*, are obliged to contribute towards the ſupport of other mens' *baſtards*. Many militiamens' relations are able enough to keep their families from the pariſh, if they would exert themſelves accordingly; but the ſpirit of independence, and former laudable reluctance in applying

ing to the pariſh fund, are nearly worn out: and this mode of relief is now claimed, or rather ſeized by them as their own peculiar property. One married man in the pariſh has ſeveral baſtards, and I much doubt whether he pays for the maintenance of any one of them.

In ſhort, the effect of the poor's laws as they now ſtand, by taking away from individual man, who, by the law of nature, was condemned to earn his 'bread by the ſweat of his brow,' all ſort of reſponſibility for the conſequences of his own never failing endeavours to increaſe and multiply his ſpecies, gives exiſtence to a vicious and abortive population; creates the evils they were intended to mitigate; and threatens to tear up the foundations of morality and property itſelf. The burden of the good old pauper ſong, written ſoon after the enactment of laws, apparently ſo much in his favour, is tolerably deſcriptive of their genuine ſpirit; which, as far as my recollection ſerves me, is as follows:

'Come let us drink, ſing, and be merry,
The pariſh is bound to maintain us.'

Nevertheleſs, as good ſubjects and Chriſtians, we are in ſome degree bound to ſubmit with patience to this and other abuſes and grievances, of which, though the means of redreſs are obvious and ſafe, it would now be extremely improper to think of reforming. Yet that for ever muſt remain to be the only mode of averting thoſe extremes, which, by the experience of all ages and countries, inevitably tend to the confuſion and deſtruction of all human communities.

The above mentioned expences are very much enhanced in times of ſcarcity and dearth; alſo, too frequently from moſt expenſive litigations at law, on diſputed caſes of ſettlement, &c.

I am yours, W. P.

FOR THE FARMER'S MAGAZINE.

Anſwer to Mago's Query, p. 292, concerning the Advantage of Enclоſing Corn Land. By Lieutenant-Colonel Vavaſour.

I HAVE obſerved in your very uſeful and entertaining Publication, the Farmer's Magazine, a query ſigned Mago, on the expediency of encloſing lands adapted to the growth of corn. Although the encloſing the commons and common fields of England is certainly of great public and private benefit, I am much inclined to think, that if agriculture were carried to that degree of perfection of which it is capable, all interior fences might be diſpenſed with.

If

If this opinion be well-founded, of courſe, the firſt coſt of making ſubdiviſion fences, together with their conſtant repairs, and the loſs of land they occaſion, will be ſo much gained to the proprietor of the eſtate.

In Flanders, where the land produces more for the ſupport of both man and beaſt, than any part of Europe I am acquainted with, the encloſures indeed are very ſmall, and are ſurrounded by borders, which are lower than the reſt of the field: Theſe borders are planted with poplars, and other quick growing trees, and a ditch is cut along the middle; but theſe ditches are intended rather as drains, than as fences to confine cattle. In what is called the field gardening huſbandry, near London, the different crops are divided by narrow paths. This is ſaid alſo to be the practice in China.

Whenever the greateſt poſſible produce is required from land, it is neceſſary that no live ſtock be ſuffered to depaſture in the field; but that the cattle crops be cut and carried to them in ſome confined place. If ſheep are kept on clover, vetches, or other ſummer food, they may be confined by hurdles or nets, as is practiſed when at turnips. It will be remembered, that this ſyſtem is propoſed for land adapted to the growth of corn; and which may, by theſe means, be made to produce more for the ſupport of live ſtock, than if the whole had been in graſs, excluſive of the grain which will be ſent to market.

I am fully convinced, that large farms are in general the beſt cultivated; yet if the capital now expended on an extenſive tract of land, were employed on a farm of good arable land, of far leſs extent, but cultivated in a garden-like manner, and made to produce alternate corn and cattle crops, the latter to be conſumed in the moſt economical manner, conſequently an immenſe quantity of manure made—if ſuch a ſyſtem as this were purſued, a vaſt additional produce would be brought to market, and a greater clear profit would remain to the cultivator of a ſmall farm, than is at preſent generally made by the occupier of ſeveral hundred acres.

If the foregoing premiſes be well-founded, it muſt follow that, on land adapted to the growth of corn, interior fences are unneceſſary. But, according to the ſyſtem of agriculture at preſent generally practiſed in this kingdom, they become unavoidable, as no tenant could be found who would give a fair rent for a farm, unleſs it was divided into moderate ſized encloſures. To cultivate a country in the moſt garden-like manner, with a view to the ſupport of the greateſt population, I believe it will be unneceſſary to divide farms into ſeparate encloſures by interior fences.

Melbourn-hall, Yorkſhire.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

SIR,

I DO myself the pleasure of transmitting to you an *account of the drilled turnip husbandry of Berwickshire*, drawn up in 1797, at the desire of the Earl of Lauderdale, for the use of his Grace the Duke of Bedford, by Mr Low at Woodend, a gentleman well known to a great number of your readers, and one who entertains more correct views of rural economy in all its branches, than almost any person of his profession. Trusting it may prove advantageous to farming people in many districts, I recommend its insertion in your Magazine, though it may not be improper to add, that a few copies were printed by one of the author's acquaintances in Edinburgh, and circulated among his particular friends. I am, Sir, yours, &c.

A FRIEND TO IMPROVEMENTS.

Method of Cultivating and Raising Turnips in Drills, as practised in Berwickshire and the Neighbouring Counties.

General History.—The practice of sowing field turnips in drills has prevailed in Berwickshire these forty-five years past; though, from small beginnings, the culture of this useful root has increased so much, and been so extensive, that the practice has been communicated to all the neighbouring counties, and the ploughmen and overseers, who have been long accustomed to migrate, have in some degree extended it all over Scotland: And wherever it has been practised and well understood, it has got a decided preference to the broad-cast husbandry, for the following among many other obvious reasons.

1. The land under a drilled crop, which admits the plough between the drills, is better cleaned, and cultivated more like land under fallow than under crop.

2. The hand-hoeing of the drill crop is much easier performed than that of the broad-cast crop, the former being done by women and children, who can learn their work in a day, whereas the latter requires gardeners, or expert and long experienced hand-hoers.

3. The earth is generally laid up to the drill turnips by the plough, and on this account they are better covered, and consequently better preserved in case of severe frosts, which often spoil the crop, especially in high situations. Besides this, the drilled turnips are very easily got at in time of deep snow, and are in that situation taken up with less loss than the broad-cast crop.

4.

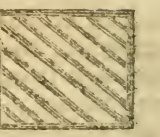
4. The drilled crop is generally better than the broad-cast crop, and will weigh more per acre, seldom less, except where the land is very fine, in good heart, clean and dry: Such only is in preparation for a broad-cast crop, whereas a drilled crop is often raised on land very coarse and foul.

5. By drilling wet land, the tops of the drills or small ridges are in some degree laid dry, and a good crop is often raised on land so wet, that the broad-cast crop would have no chance to be worth working.

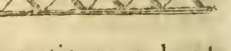
Preparation of the Land.—The land intended for turnips, which is generally such as has carried a crop of wheat or oats, is first ploughed after harvest: it is again cross-ploughed in March or April, if the season will allow: it is next broken and pulverized with the break or harrows, and all the weeds and stones are carefully gathered by women and children, and carted off into heaps on the sides of the fields. The operations of ploughing, harrowing, and gathering weeds, couch grass, &c. are not given up till the land is thoroughly cleaned. If the land requires liming, the lime has either been spread on the stubble after harvest, or it is laid up in large heaps in or near the field, and covered with turf or straw, to keep it dry, and from cakeing, during winter: it is spread upon the land, previously cleaned for its reception, and sometimes ploughed, but oftener harrowed in; and thereafter the land is ready for ridging or drilling up, dunging and sowing. It forwards the work considerably, when the dung is carried out from the dung-yards in winter, and laid up in middens on the fields. If these middens are not trodden upon, the rotting of the dung is much forwarded. Sometimes, where the land is very clean, and dung to be had in plenty, it is spread on the stubble land, and ploughed down with the first ploughing the land gets after harvest.

Forming the Drills or Ridges.—Where the ground is not well pulverized, but remains *rough* and *cloddy*, the drills are formed with the common swing-plough drawn by two horses, which lays together three or four rinds or furrows for one drill. But the most common and expeditious method of forming these drills is by a double mould boarded plough, which has the boards hung on the sheath with hinges, and can be set wider and narrower at pleasure. It is also drawn by two horses yoked abreast, and forms both sides of the drill at once. The width of the drills is generally from twenty-seven to thirty-six inches. And when the ridges are not much rounded, the drills are not laid in

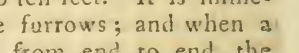
the course of them, which is generally parallel to one or other of the sides of the field, but are angled a little, as on the margin, for the purpose of having the dung better mixed with the soil, when it comes to be ploughed up into the ordinary sized ridges for grain, after the turnips are ate off.



When the field is drilled up or formed into narrow ridges or grooves, a section of them appears thus:

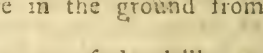


Dunging and covering the Dung.—These operations go hand in hand, and follow one another as fast as can be done, always taking care to be busy in dry weather. The dung, at the rate of from ten to twenty double horse carts to the acre, is carted to the drills, and laid in small heaps in every 3d, 4th, 5th, or 6th one, at the distance of from eight to ten feet. It is immediately spread by careful hands into the furrows; and when a few of the drills or furrows are dunged from end to end, the double boarded plough is again used to split the drills and cover the dung, which it does at once going about, leaving the top of the drills or ridges immediately above the dung thus:



Sowing the Seed.—As it is of consequence to cover the dung quickly, in order to preserve the sap in it, so is it to sow the seed immediately, while there is moisture in the ground from its being newly turned up.

The ridging plough generally leaves the tops of the drills too high and narrow for the reception of the seed. Where the dung is well rotted, and the soil a little stiff, the drills are somewhat levelled before sowing, by a light harrow passing once or twice over them, leaving them thus:



But the most common way of flattening them is to use a light wooden roller of about four and a half feet long, drawn by one horse. He walks in the furrow, and the roller presses down and spreads or flattens the tops of two of the ridges or drills at once. To the frame of this roller is tied by a rope or light chain, the drill or sowing plough, of which there are various kinds. The simplest is generally the best. It is a cylinder or small barrel of white iron or copper, mounted on an axle with one or two wheels, oftener upon two than one. It is perforated with holes at equal distances, and as it turns round with the wheels, the seed falls equally out, and exactly in a straight line. This cylinder and wheels are fixed to a light frame-work, which has two stilts, and is kept on the top of the drill or ridge by a man or a boy, who walks behind as if managing a plough. Before

fore the cylinder there is fixed to the frame-work a kind of coulter, which makes a small rut for the seed, and behind is fixed a rake with two or three teeth, which mixes the seed dropped with the soil; and as the horse returns by the next furrow, to right or left, the opposite end of the roller rolls the ridge sown, and compresses the top of the ridge on which the sowing machine follows. When it is necessary to do much work at a time, there are two sowing machines which follow the same roller, and sow two ridges at once; and a second roller follows to roll in the seed. Sometimes the roller used for the seed is a kind of broad low wheel attached to the machine, and rolls only on the track or rut where the seed is sown. On fine land, well prepared with rotten dung, or on such land as will grow turnips without dung, and when it is considered as unnecessary to horse-hoe, there is a drill used which is attached to the common swing-plough, and, one plough following another, the turnip seed is sown in rows at a regulated distance and depth. This drill machine is made by the patentee in Yorkshire.

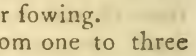
Choice and Quantity of Seed, &c.—The seed for the most part is brought from England, and retailed to the farmers by shop-keepers. There are some growers of seed in the country, who pretend to take great care in selecting the best kinds from their fields, which only are allowed to run to seed. It is reckoned best when the turnips intended for seed are transplanted early in the spring, before shooting. The round white, the green topt, the red topt, and the high round bottle topt, are all used, and very often mixed in the same field. When cattle or sheep have a choice, they generally prefer the other kinds to the red; hence it is concluded, that the red does not feed so readily as the other kinds; but they are cultivated in considerable quantities, because they stand the winter best. Two pounds weight of seed is generally sown on an acre; a less quantity is sufficient; but the saving of seed is of very little importance in this case, as it seldom sells above 6d. per pound, and when thick sown, the plants push best at first, and are less liable to be all destroyed by the fly, which sometimes happens when very thin sown.

The Swedish turnip has been tried, but is not in general use. They answer well with transplanting when young, and therefore are sometimes sown in small quantities, for the purpose of being transplanted into blanks in the common turnip fields. They are known to be very hardy, and can be preserved till late in the spring, on which account they were (when first introduced) thought to be of great use, as coming in for proper food for young stock, between the failing of the common crop and

the springing of grass; but it has been discovered that the skin or rind is so thick and hard, as to shake out the teeth of young stock, especially of hogs (young sheep), and therefore they are not much cultivated by the farmers.

Time of Sowing.—Drilling up the land, dunging and sowing, commences about the first of June, and is continued to the middle of July. The crops sown before or after these periods, in Scotland, seldom turn to any account. From the 10th to the 20th of June, is reckoned the very best time for sowing.

Horse-hoeing.—When the turnip plants are from one to three or four inches high, or when the weeds begin to appear, a small light swing plough of the common form, known in Scotland by the name of Small's plough, drawn by one horse, goes along one side of the ridge or drill, and turns off the earth from the young plants, and returns by the other side for the same purpose, leaving the field in appearance thus:

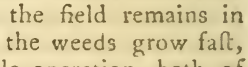


In place of the light common plough, sometimes the earth is turned off from each side of the young plants by a machine, mounted with two coulters, which cut from both sides at once, and on smooth land does the work equally well with the plough, and more expeditiously.

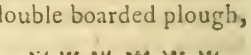
Hand-hoeing.—Two or three days after the earth is turned off from the plants, the hoers go to work, using a hoe from five to eight inches broad, and, at one stroke across the ridge, cut the weeds, and leave the turnips sufficiently thinned. This work costs about 2s. per acre.

After being thus horse and hand-hoed, the field remains in the same state ten or fifteen days, and if the weeds grow fast, the same operation is repeated. The whole operation, both of horse and hand-hoeing, under ordinary circumstances, does not amount to above 7s. per acre.

Furrowing up the Turnips.—The turnips being clean hoed, and beginning to bottle, the earth lying between the rows, which has been turned off, as above mentioned, from both sides of the plants, is again laid up to them by a light double boarded plough, drawn by one horse. The operation is then finished, and the field or drills left in appearance thus:



Sometimes it happens that weeds, such as wild mustard, &c. grow up, and appear among the turnips after this last operation; in which case they are pulled up by the hands of women or children, so that by August nothing is seen but the tops or shaws of the turnips, covering the field thus:



Drawing

Drawing, or Eating off the Turnips.—By the end of October, or 1st of November, the turnips are drawn for feeding black cattle, tied up in the sheds or stables, or going at large in straw yards, or laid out to them in dry grass fields; or they are ate on the field by sheep, kept together on the same spot by flakes or hurdles, which are shifted once a week. More generally now, the one half, that is, five or six rows about, is drawn for black cattle, and the other half remains to be ate on the ground by sheep, either ewes or wedders, which go to market from 1st March to the 1st May, and sell for from 45s. to 70s. each. A great proportion of the crop, raised by breeders, is consumed by young stock (sheep), which feed on them from 1st November to the 1st May, and are thereby raised to a great size, and kept in good order. They go off then, in the middle of May or 1st of June, to the Yorkshire dealers, at from 30s. to 40s. a head.

Value of the Crop of Turnips.—Many farmers, who are neither breeders nor feeders of stock, cultivate and raise fields of turnips. These they let to feeders, or breeders of stock, to be ate off, as may be stipulated, in a given time, either with black cattle or sheep. Formerly (about ten years ago) the price ran from 2l. to 3l. per acre. Of late years, owing to the increasing value of stock, the price has run from 4l. to 7l. per acre. An acre of good turnips will maintain and feed an ox of 60 or 70 stones for five months, or ten sheep for the same period. The ox's price in ordinary years will advance by this feeding 5l. and the sheep's 10s. There is more trouble in feeding with black cattle than sheep, but the additional quantity of dung made compensates this trouble. It is not uncommon to find turnips, in drills, on fresh new land, that will weigh from 20 to 32 lib. English; but a size under 10 lib. is the most common crop.

Management of the Land after the Turnip Crop.—On most of the dry lands along the Tweed and sea-coast, where turnips are raised and ate off by sheep, it is common to sow wheat upon such fields as are cleared, by the 1st or middle of March. These cleared from the middle of March to the middle of April, are sown with early or Dutch oats. After that, where turnips remain, the land is sown with barley. All these crops generally get only one ploughing, and are sown with clover seeds, 12 lib. to the acre, half red, half white, with a bushel of ryegrass, if the field is to remain in grass longer than one year; but if intended to remain only one year in grass, the whole seed is broad or red clover.

Rotation of Crops.—Upon the fine rich turnip lands the rotation of crops generally is,

1. Drilled turnips.
2. Wheat, with clover seeds.

3. Clover, cut green for horses, or made into hay.
4. Wheat.

Or, 1. Turnips.
2. Oats, or Barley with clover seeds.
3. Clover cut green, or for hay.
4. Oats.

Or, sometimes, though reckoned worse farming,
1. Turnips.
2. Wheat.
3. Oats.

Lands that will bear any of these three rotations are reckoned the very best, and will pay the most rent. From 30s. to 45s. per acre is not an uncommon rent for such lands.

Lands of a worse quality, or in a high climate, which is the general cast of the county of Berwick, are laid to grass after the turnip crop, and continued in pasture for four or five years. And the lands still more high and barren, are sometimes ploughed out of lea, or barren grass, or heath, and fallowed and limed the year previous to their bearing a crop of turnips. This mode of preparation is reckoned excellent; and it is observable, that lands of these last classes, managed in this way, will bear as weighty a crop of turnips as the better lands; but they do not fatten so well, nor maintain so much stock.

Housing or Stacking of Turnips.—In Scotland, the winter frosts are sometimes very severe, and continue for a month or six weeks. During this time, though the turnips may be pulled, or rather cut up with hoes, yet they are so hard as not to be ate by the stock but with the greatest difficulty, and therefore the stock loses flesh. To guard against this unfavourable season, the expert and diligent feeder pulls up a quantity of the turnip in November, and, after cutting off the tops and roots, stacks them up, or houses them near the feeding sheds or field, and covers them well with straw. They are then in good order to be dealt out to the stock in time of hard frost or deep snow.

Removing Turnips from Wet Land.—The rage for raising turnips in Berwickshire is so great as to induce the farmers to sow them sometimes on land so wet and spongy as not to bear the sheeps' feet to eat, far less the cart wheels to carry them off. In this case, it is considered to be the best way to carry them off in creels (or large baskets fastened to a saddle) on horseback. The horse walks in the furrow between the rows of turnip without poaching the land. These creels or baskets open at bottom to let out the turnips when carried to the place where they are wanted. A horse will carry at a time from three to four hundred weight with ease.

Conclusion.

Concluſion.—It is to the drilled turnip huſbandry, added to the mixt huſbandry (or that of having half of the farms in tillage and half in paſture graſs, with power to ſhift), that Berwickſhire is indebted for the high rank it holds of being one of the firſt and beſt cultivated counties (under ſimilar circumſtances) in the kingdom, and for the extenſive demand for its breed of black cattle and ſheep; which has filled the pockets of many of the farmers with well-earned wealth, and, in many caſes, has tripled, quadrupled, and quintupled the landlord's rent. It is perhaps neceſſary to add, that much of the land being allowed to lye for years in paſture graſs, it acquires a ſtiffneſs on the ſurface, from the graſs roots, that cannot be reduced by the breaking-up crop, which is generally oats ſown after one ploughing: therefore the drill turnip huſbandry becomes more neceſſary here than in other counties, where almoſt the whole lands are conſtantly kept under crop, and where no graſs of value is to be found above one year old.

Wood-End, by Dunſe, December 1797. ALEX. LOW.

TO THE CONDUCTOR OF THE FARMER'S MAGAZINE.

Directions where Graduated Spring Steelyards may be procured; with Remarks on Mr Ducket's Skim-Plough.

SIR,

The *Yorkſhire Farmer*, page 523, vol. IV. of your Magazine may obtain the *Graduated Spring Steelyards* that he inquires after, by applying to Mr Salmon, Woburn Park, Bedfordſhire, where alſo are made the machines for weighing live ſtock, on the ſame principles as thoſe uſed annually at Woburn ſheep-ſhearing to determine the prizes.

The price of the ſpring ſteelyard is five guineas; of the cattle weighing machine I cannot ſay, but think about the ſame price. With this graduated ſpring ſteelyard, the force required to work every ſeparate part of the Duke of Bedford's large thraſhing machine has been meaſured, which has diſcovered ſome very important facts in mechanics.

In A. Young's *Annals of Agriculture*, No. 248, page 540, the writer who ſigns *Montagu Burgoyne*, in deſcribing the ploughing match at Harlow, July 1. 1804, ſtates as follows:

'It appeared to me to be as neceſſary to aſcertain the ſuperiority of the plough as of the ploughman. A ſilver medal was for this reaſon given to the manufacturer or owner of the beſt plough, which did its buſineſs the beſt with the *leaſt force*. A good deal of difficulty occurred in this deciſion, for every method hitherto

thought of to aſcertain the force required is very inſufficient. We had recourſe to a ſpring dial; but we found it ſo much affected by the ſudden jerks of the horſes, that it proved nothing, and impeded the regular motion of the plough.'

The writer of this paragraph has convicted himſelf by ſuch an aſſertion; becauſe, had this *ſpring dial* not been affected by the ſudden jerks of the horſes, it is plain it could not have been accurate; for it muſt be acknowledged that thoſe ſudden jerks of the horſes were owing to a greater exertion for a ſhort time, and that if the ſpring dial had not diſcovered the force of this exertion it would have been inaccurate and of little uſe.

Every extra obſtacle that the plough meets with cauſes it to draw harder, and the greater the number of theſe obſtacles the more general force is required; all of which ought to be taken into the account in meaſuring the force exerted. Every different velocity of the horſes will make a difference in the actual force neceſſary to be applied to the plough. All other things being the ſame, the ſlower the pace of the horſes the leſs force will be required.

The weight that the holder of the plough applies on the handles muſt make a material difference on the draught of the horſes; and yet it makes part of their work, although it is no part of ploughing. I have known this unneceſſary weight on the plough-tail cauſe half the work of the horſes.

It is very fortunate for Mr Ducket's ſkim-plough that this (whim) dial was thrown aſide as uſeleſs; becauſe it is plain to every one, that if the *force* was taken into the account, Mr Ducket's plough muſt ſtand low in the lift; and I can aſſure M. Burgoyne, that although the ſpring ſteelyards were uſed at the Woburn ploughing match, and Mr Ducket had a prize, that, in the deciſion, the *force* was not taken into the account, as it made no part of the conditions of the premium.

Mr Ducket's plough is certainly a very valuable inſtrument for covering the turf, &c. which certainly cannot be done without conſiderable expence of power. Neither will it be believed by any practical farmer that it will 'ſo completely plough, in any crop, *three feet* high, that not a blade ſhall appear above ground!'

I have no wiſh to detract from the merits of any inſtrument, however ſmall; at the ſame time I eſteem it a duty to correct any falſe impreſſions that may be made on the public mind, either by ignorance or deſign. I am, Sir, your moſt obedient ſervant,

B. Bevan.

Leighton-Beds, September 19. 1804.

BRANCH

BRANCH II.

Agricultural Intelligence.

When our laſt Number went to preſs, the weather, generally ſpeaking, was dry over the whole iſland, and ſanguine expectations were entertained, that a full and abundant crop of grain would be gained by the huſbandman. Before publication, however, a great, and, in many inſtances, a fatal change occurred, which, at that critical period, proved very injurious to the corn fields, particularly thoſe occupied by wheat. In England, the rains ſet in with ſeverity ſoon after the middle of July; conſequently the after loſs was greater than that felt in Scotland, where the weather remained longer unaltered. In the firſt week of Auguſt much rain fell in every direction; and, for more than two weeks thereafter, the weather continued wet and unſettled, preventing every kind of grain, oats excepted, from filling and ripening with vigour and ſucceſs, and occaſioning that baneful diſorder, *mildew*, upon many fields of wheat. Independent of theſe rains, there was good reaſon for believing, that the wheat crop of Scotland would have been more prolific than any one for many years paſt. Even under the inauſpicious circumſtances now detailed, it may be eſtimated as fully equal to an average, though much of the grain is of inferior quality, and, in ſome diſtricts, not a little ſmutted.

Notwithſtanding that ſeveral of the grain crops were greatly injured by exceſſive wetneſs at the period mentioned, yet other articles, ſuch as oats, graſs, turnips, and potatoes, were conſiderably benefited thereby. Oats are a kind of aquatic, and rarely ſuffer from moiſture, unleſs where lodged; and leguminous crops, peas excepted, are ſeldom good in a dry ſeaſon. Indeed, turnips and clovers received much advantage from the Lammas rains; many fields of both being completely at a ſtand when the quarter commenced.

From the various accounts tranſmitted to us, it appears that, in England, wheat turns out a ſhort crop, and that the quality, in ſeveral caſes, is of a very inferior deſcription. This is evident, from the average price of flour approaching ſo near to that of wheat; a circumſtance which cannot happen, unleſs when the grain is materially defective. Perhaps we are not far from the mark, when we rate the deficiency of produce at one fourth, compared with that of the preceding year. In Scotland, though

though the grain is, in few inſtances, ſo plump and well coloured as laſt ſeaſon, yet the return per acre is much nearer to the ordinary produce, than among our ſouthern neighbours; for, in Scotland, the rains were later, not ſo heavy, nor of ſo long continuation as with them. Had they happened earlier, when the grain was in an embryo ſtate, it is very probable, that qualities would not have been better than they were in 1799. At one period, the like apprehenſions were entertained, as were realized in that fatal year; but theſe were ſoon removed, by the uncommon fine weather that followed, by which the quality was eminently improved.

Barley, ſo far as cultivated, may be regarded as an average crop; but then the breadth of ground occupied by this grain was much narrowed this ſeaſon. The prices of laſt year, owing to the exorbitant tax impoſed upon malt, were ſo low that the grower was diſcouraged from raiſing it. This was conſtantly predicted by us; and indeed the ſpirit of prophecy was not required to form ſuch a prediction. Barley is an article rarely imported; perhaps it is not raiſed extenſively on the Continent, therefore a ſhort crop of it will be more difficult to remedy than that of any other grain.

Oats, according to our information, promiſe to be as plentiful as laſt year, though, no doubt, the deficiency of barley will throw a greater demand for them into the market. Laſt year, much barley was uſed for horſe feed; a practice hardly to be expected under preſent circumſtances, therefore the demand for oats muſt be proportionably increaſed.

Peas and beans, this year, are by moſt people conſidered as ſuperior to any crops got ſince 1798. This is rather remarkable when the adverſe weather in ſpring is remembered, and can only be accounted for from the fine weather in the blooming and ripening ſeaſons, both being remarkably favourable.

Thus we have given a conciſe view of the ſeveral corn crops, collected from an extenſive correſpondence over the whole iſland. In ſome diſtricts, the ſcale may be lower or higher than we have marked it; but, taking matters as a whole, we have reaſon to believe that our account, in ſubſtance, is not materially wide of the truth. In former times, a conſiderable period elapſed before the general ſituation of the crop could be aſcertained; but now, when agriculturiſts maintain a correſpondence nearly as regular as that carried on by mercantile people, the proſperity and adverſity of rural concerns can be eſtimated with facility.

From the foregoing ſtatement, the late advance upon the prices of grain may be ſatisfactorily explained. Indeed the riſe has been general over the whole iſland, though full as great in the metropolis

polis as in the country diſtricts. Whether matters have reached their level it would be difficult to ſay, though there is reaſon to believe that they have not yet gone ſo far. The new corn bill has been conſidered as partly cauſing a riſe; but, in our humble opinion, without the ſmalleſt foundation. The bill is not yet come into action, therefore cannot have ſtopped the importation of a ſingle buſhel. Perhaps the proſpect of its operation rather quickened importation, by cauſing orders to be ſent out which might otherwiſe have been poſtponed. The prices of wheat, barley and oats are greatly above the rates fixed on by the new bill, therefore it is plain that the like advance would have happened, even had the Legiſlature rejected it. We are none of thoſe who place much dependence upon corn laws for regulating the market; indeed their utility and effect are both problematical circumſtances, the markets being entirely regulated by the goodneſs or badneſs of the crop. We have always contended for protecting duties in favour of Britiſh huſbandmen, ſo as they might not be underſold in their own market by foreigners; and had duties been impoſed upon importation equal to the difference betwixt the value of labour and amount of taxes in Britain and thoſe of foreign countries, in our opinion no injury would have been received from a total abrogation of the corn laws. Exportation of grain from Britain is now out of the queſtion. We have conſumpt at home for every diſpoſeable buſhel; and, according to our views, were a ſurplus to remain, it would afford ſure proof that the proſperity of the country was on the wane—that trade was decreaſing, and that population was either reduced, or the people left without the means of enjoying their uſual comforts.

The butcher market has continued nearly in an equable ſtate through the quarter, any little difference being on the ſide of declenſion. Lean ſtock, eſpecially ſheep, ſeemed at one time to be on the fall; but, of late, prices appear to be more ſtationary. Mutton has, for ſeveral months, been from 10 to 15 *per cent.* cheaper than beef, occaſioned, in a great meaſure, by the immenſe crop of lambs brought to market laſt ſummer. High as grain may be reckoned, butcher meat, if we take the old ſtandard as a rule, is ſtill higher. It is more than twice the price of bread, and at this time there is ſmall proſpect that prices will bear greater affinity.

So far as we can learn, every exertion is making by huſbandmen in the wheat diſtricts, to increaſe the culture of that valuable grain; and no object more deſerves their attention, whether conſidered in a public or private point of view. The public have now got ſo largely into the uſe of wheat bread, that an extended culture of the raw article is becoming every day more neceſſary;

ceſſary; and, without diſcuſſing the advantages of other ſyſtems, it may ſafely be admitted as an axiom, that none promiſe greater profit to the cultivator than the one which admits the greateſt ſowing of wheat, it being at the ſame time expreſsly underſtood, that ſoil and climate are calculated for the growth of that grain.

Nov. 1.

Extracts from Private Correspondence.

SCOTLAND.

Selkirk Quarterly Report.

The firſt and ſecond weeks of Auguſt proved very wet, and the natural crops of hay then in hand were much damaged. Harveſt was alſo much retarded thereby, as the corns continued growing when they ought to have been ripening. After all, our grain crops are abundant, and ſeldom, if ever, had a better appearance in the field and ſtack-yard.

There was leſs bear and barley ſown with us this year than formerly, owing to the difficulty experienced laſt year of finding merchants. Oats, which are our principal grain, were in many places lodged by the rains, which gives ſuſpicion that they will not meal ſo well as they did laſt year. Peas were a good crop, and well harveſted, which is every thing with them. Turnips ſuffered much from the ravages of the caterpillar, and are below par. Potatoes are excellent, both in quantity and quality. Some people have thirty-five after one, a produce ſeldom obtained in this part of the country.——*Oct.* 20.

Aberdeenſhire Quarterly Report.

The weather during the harveſt quarter was highly favourable for the ripening, cutting down, and ingathering of the crop; and, except ſome ſlight ſhakes from the equinoctial gales, the work of the ſeaſon was finiſhed in the moſt perfect and agreeable manner. Bear and oats rather exceed an average, both as to quantity and quality. Peas and turnips are generally good, and few years are recollected wherein the potato crop was ſo prolific. The graſs ſeeds ſown laſt ſpring make an excellent appearance, and the paſture fields ſtill afford a good bite. In ſhort, we have cauſe to rejoice that, when engaged in an obſtinate conteſt with a foreign foe, peace and plenty flouriſh at home. Theſe are the greateſt bleſſings that can be enjoyed; and, being furniſhed to us ſo liberally, ought to impreſs the hearts of all with gratitude to the Bountiful Giver.——*Oct.* 21.

Letter from Galloway, October 22.

'Till the 22d of September, we had favourable harveſt weather, at which time ſome winds cauſed a conſiderable ſhake of the grain that remained uncut upon the higher grounds. For three weeks paſt, we have

have had a great deal of rain, which occaſions a conſiderable part of the crop upon the higher grounds to remain ſtill in the fields.

'Wheat and barley are not ſown in large quantities here, and, in general, have yielded but light crops this ſeaſon. Turnips were hurt by the drought and the caterpillar, and, though looking well at preſent, will not prove a heavy crop. Potatoes, owing to the badneſs of weather at ſeed time, and the drought through ſummer, are but indifferent. A conſiderable demand has lately appeared for wintering cattle, though at reduced prices. Sheep have a duller ſale than cattle. At Stranraer market, beef is 4½d. and 5d. Avoirdupois weight; mutton rather lower.

'The grain market is expected to do well; and report ſays, that 40s. may be expected for potato oats, per boll of 12 buſhels; for common oats 36s.; but as our markets do not commence early, little can be ſaid how they may go.

Letter from Falkirk, October 22.

'The harveſt in this diſtrict has been fully three weeks later than laſt year, or than it promiſed about the beginning of Auguſt. This is always an unfavourable circumſtance; and as the operations of that ſeaſon could not be carried on with the ſame celerity as laſt year, theſe, by conſequence, became more expenſive. It is now finiſhed; and I believe the crop was generally ſecured in pretty good condition. The crop is more bulky than laſt year; conſequently, the ſtack yards afford a plentiful appearance. But this is deceptious; for in fact the crop is not really ſuperior, in quantity of grain, to that of laſt year, and, in quality, is by no means equal to it. Harveſt work was carried on at great expence to the farmer, reapers (chiefly women) having for ſome time got two ſhillings a day with victuals; and where money alone was given, which is often the caſe in the immediate neighbourhood of the town, half a crown, and two ſhillings and eightpence. Wheat, till about the beginning of Auguſt, had a flattering appearance, and promiſed a very abundant return. About that time, however, all the weighty fields were lodged, and, from the continued rains, were never able to get up again; they were of courſe greatly injured, and ſmut is more generally complained of than has been the caſe in this diſtrict for ſome years. A moſt culpable, but at the ſame time very general opinion prevails here, that where old wheat is uſed for ſeed, pickling is unneceſſary; but the very great loſſes from ſmut this year, will perhaps cure many of our old-faſhioned farmers of this prejudice, which nothing elſe could have eaſily effected.

Barley is a pretty good crop, but was ſown to much leſs extent than uſual, owing to its having been laſt year a perfect drug. It is now in great demand, at a very advanced price, which no doubt will induce many farmers to cultivate this grain next year to its former extent: indeed the quick demand, and high price this ſeaſon, may probably lead ſome even to exceed their former breadth. If the preſent diſproportionate malt duties ſhould continue, it does not require the gift of prophecy to predict that ſuch a plan will end in diſappointment,

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by reducing the article to its late ſtate in the market. Beans may be reckoned up to an average crop. Oats are bulky, but, from ſome trials at the mill, don't promiſe to meal equal to laſt year. The potatoes are not yet all up, but they are of good quality, and a very abundant crop indeed. Paſtures have been excellent through the whole ſeaſon, and ſtill afford a full bite. Young graſſes look very thriving. Wheat on fallows has been got ſown in fine condition, and a regular healthy braird appears on many fields. Harveſt having been rather backward, and a good deal of rain of late, winter ploughing is not far advanced. Our grain market during the laſt quarter has been looking up, and is expected ſtill to riſe. Old wheat, of good quality, 37s.; New 33s.; Barley 30s.; Beans 21s. Potatoes are not expected to exceed 5s. per boll. This will tend greatly to keep down the price of oat-meal, which is at preſent about 16d. per peck.

Upon the whole, this promiſes to turn out a more favourable year than the laſt for the farmer; for although his crop may not be quite ſo good, the prices are likely to be more in proportion than that difference. Many of his articles were ſold at a rate abſolutely below what they could be produced at laſt year. Our butcher market has fallen conſiderably. Beef in retail, 7d. to 8d.; Mutton 6d. to 7d. per lib. Tron. This is more than might have been expected, conſidering the prices at the laſt tryſt, which fully exceeded the general expectation. On the forenoon of the firſt day of the tryſt, there was rather a dull appearance: this, however, did not laſt long; for buſineſs afterwards became very briſk, and good prices were obtained for almoſt all ſorts of cattle. Before the end of the week the muir was nearly quite cleared.

Roſs-ſhire Quarterly Report.

We had, upon the whole, a ſummer favourable to vegetation; paſture graſs was every where in great abundance; and, now that the corn crops are nearly all harveſted, they will, it is thought, turn out above an average of the laſt three years, wheat excepted, which was much hurt with ruſt, and almoſt all infected with ſmut. Oats and barley promiſe ſuperior ſamples to ordinary years, being in general got into the ſtack-yard in fine condition. Of late, the weather has been unfavourable for the wheat ſeed; and the little corn that remains in the field, in high ſituations, muſt ſuffer by it. Potatoes are an abundant crop; many of them, however, are ſtill in the field, and may ſuffer from wet and froſt, before they can be taken up and ſecured. Turnips are in general a weighty crop. From this circumſtance, and the bulk of ſtraw, winter keep for cattle will be in great plenty. Cattle markets have of late been briſk, and the prices conſiderably advanced, ſince Auguſt laſt. Our corn prices cannot be noted. No wheat nor oats have yet been ſold of this crop, except a little of the former for ſeed. Oat meal ſells from 25s. to 26s. per boll of nine ſtones; Barley from 28s. to 30s. per boll; Beef and mutton from 4d. to 6d. per lib. Dutch weight.

Oct. 22.

Extract

Extract of a Letter from Ayrshire, Oct. 21.

'From the long continued rain through spring, to the 16th of June, and the subsequent dry weather for six or seven weeks, the crops in general through this county are but thin, and thought to be below an average. The wheats, upon the whole, are the best, though these also suffered in part, from the rainy weather which came on at the beginning of August. The hay crops were good, and, at the beginning of the season, before the severe drought set in, were selling out of the rick as low as from 3½d. to 4d. a stone. From the middle of August to the end of September, the weather continued variable, though upon the whole good; but since the beginning of the present month it has rained incessantly, with the exception of only two complete dry days; that is, there has not been a single day during that time without rain, and that a great deal of it, except two; and the misfortune is, that in many places the crop is not yet cut down, and much of it is standing in the fields that was cut three weeks ago; and it may, for that reason, be readily supposed what condition it must be in. The ground being so completely drenched with rain, has also greatly retarded the sowing of the wheat, and what is put in the ground is by no means done in the best manner. It is thought, too, that the potato crop will be deficient; any experiments that have hitherto been made indicate this, and in an especial manner upon dry shore land. The turnip crop, which is now beginning to extend through the county, suffered in the same manner as in other places by the caterpillar. But this destructive insect, not having generally destroyed the heart leaves, as soon as the rain came on in the beginning of August, these pushed forward in an unexpected manner; insomuch, that many fields that were looked upon as useless, recovered in a surprising degree, and the crops will be very tolerable. From these combinations of circumstances, it may be expected that the grain markets will look upwards. They have for some weeks been rather on the advance. Meal in Ayr market has for some time past been at 15d. and 16d. the peck; Wheat about 2l. 14s. and 2l. 16s. the quarter; Oats, with fodder, from a guinea to 1l. 5s. ditto; Potato oats about 3s. or 4s. more. Bear and barley is in small request. Cattle and sheep have declined 30 and 40 per cent. from what they were about two years ago, though meat in the shambles has suffered little variation. The property-tax has not yet been exacted in this county, though every body is in daily expectation of the demand being made. The only new assessment that has taken place is that for the wives and families of the militia, at the rate of 8s. 4d. per 100l. of valuation, to be paid jointly betwixt masters and tenants, and probably by the tenants alone, where they have bound themselves to pay all public or parliamentary burdens.—The price of farm labour, both of hired servants and day-labourers, as also of mechanics, continues as high as ever. Hired servants are from 5l. to 9l., or guineas, the half year; day-labourers from 1s. 6d. to 2s. a-day, without victuals; mechanics in proportion. When the high advanced rents, some

ſome double, ſome quadruple, with the exceſſive public burdens, and the great advance upon farm labour, and upon all implements and acceſſories of farming, are conſidered, and compared with the little advance upon every ſpecies of farm produce, it would ſeem aſtoniſhing how the farmer can ſubſiſt; or, as we ſay in Scotland, 'keep the mall in the ſhaft;' and yet the demand for farms is as great as ever. This can only be accounted for by two reaſons: *1ſt*, The confidence which every body has in the good faith, ſtability and ſecurity which they poſſeſs under the Britiſh conſtitution; *2dly*, and principally, from the ſuperior mode of managing farms, which is beginning gradually to take place. While men are allowed to exert their ingenuity, without conſtraint, and to enjoy in perfect ſecurity the fruits of their well-earned labours, they will cheerfully ſubmit to burdens which, in other circumſtances, they could not endure. They then 'ſit under their own vine and their fig-tree,' and they can look up and ſay, 'I am a man.' I would alſo beg leave to obſerve, that the laſt act paſſed for maintaining the national defence, called the Defence Act, gives general ſatisfaction, and is, upon the whole, favourable to agriculture, as it does not attach to the individual, but makes the recruiting and keeping up the national force a public concern, which undoubtedly it ought at all times to be.

Morayſhire Quarterly Report.

Our harveſt is now finiſhed in the beſt condition; the weather is ſtill fine, and a better wheat ſeed time was never known.

The crop bulks well, and will be productive. Wheat varies in quality; but, on the whole, will be middling;—no deliveries nor ſales yet made.

Barley is not plenty. Some contracts are entered into for delivery in March next at 21s. per boll. Its culture has this ſeaſon given way to wheat and oats. The latter are a very full crop, and of fine quality. The potato ſort is now getting much into uſe, and promiſe to do remarkably well on rich land. Four Stirlingſhire firlots have this year produced nine ſtone, Amſterdam weight, of meal.

Potatoes are a bulky crop, and of excellent quality; in this county the curl is almoſt unknown.

Turnips are in general middling; ſome fields particularly fine.

Good cattle meet ready ſale at middling prices; while the inferior ſorts, and ſheep of every deſcription, are ſcarcely aſked after.——

22. *October.*

Banffſhire Quarterly Report.

Our harveſt was concluded, with only a few exceptions, about a fortnight ago, and, upon the whole, the weather proved uncommonly favourable. The ſtack-yards, in general, do not preſent any extraordinary bulk; and, in caſe of a hard winter, provender may be in requeſt. But the fine ſunny weather we experienced through the greater part

part of Auguſt and September, brought the late diſtricts to greater perfection than we ſcarcely remember; and there is every reaſon to think that the crop in general muſt be rather above than below an average. What wheat we have, where free of ſmut, is of excellent quality. The advantage of pickling was apparent in a *patch*, where part had been pickled, and part of it not. The former was very little touched, while the latter was at leaſt a fifth or ſixth part ſmutted. Several inſtances of this kind ſhow the utility of that preparation; and though it may not at all times be an entire preventative, it ſhould not be omitted. The cultivation of barley has been a good deal circumſcribed, ſince it could not maintain a fair and equal competition in the market with that of our ſouthern neighbours. It is however of excellent quality, and begins to be looked after. Some ſales were lately made of the old crop, at 21s. per boll. The oats are ſaid to be a little defective in ſome inſtances; but, from what trials have been made in this quarter, they appear to give nearly meal for corn. The potato oat ſeems to anſwer very well with us, and, where ſown along with the other varieties, does not appear defective in ſtraw, and promiſes a ſuperior return, where the ſoil is of any depth and condition. For ſix or eight weeks paſt, a number of cattle have gone ſouthward, but rather at reduced prices; the remaining ſtock may be about the uſual quantity, but ſmall ſized. The turnips came forward pretty well at firſt; but, in general, they do not promiſe to be very large, having ſuffered, in many inſtances, from the caterpillar and worms. Potatoes are of excellent quality, and an abundant crop.——*October* 24.

Letter from a Gentleman in Upper Annandale, 26. October.

'Having got in nearly all the corn crops in this diſtrict, it ſeems to be agreed on, that the oats are a full average, and the barley a very inferior crop, both in quantity and quality. Peas were both early and abundant. Sown hay turned out exceeding light; but there has been a decent foggage, or aftermath, when the ſecond mowings of clover were finiſhed, although theſe mowings, like the hay crop, were far from being abundant. Potatoes turn out a conſiderable degree above an average, and are good in quality alſo. The little wheat ſown here was the beſt crop on the ſoil, and quite free of ſmut or blight. Turnips have turned out above expectation, as the earlieſt ſeeds burſt in conſequence of exceſſive moiſture, and the next ſowings were cut down by the caterpillar, which has left large blanks in the fields. Some farmers tranſplanted into thoſe blanks. The common turnip tranſplanted has not formed a decent root. The Swediſh plants are alſo diminitive, being too late removed; but common greens and rorecole have done well tranſplanted into the turnip vacancies; and a field that was four times rolled has not a blank in the whole, and every plant thriving. This rolling, repeatedly, has effectually anſwered—extirpating the caterpillar, without injuring a ſingle turnip. It was publiſhed in the newſpapers; but the reſult of the operation being now fully ſeen, it ſhould

be made known, in caſe of another invaſion againſt another ſeaſon, when the farmers may be ready to give the enemy a general and effectual defeat, on their firſt appearance.'

Letter from Glaſgow, Oct. 26.

'Our harveſt (a few fields about the moor edge excepted) is finiſhed, and all the grain ſecured in moſt excellent condition. Wheat and oats are fine crops, both in regard to quantity and quality. A few blacks, indeed, have appeared in ſome of the former which have come to market; but we are glad to find the quantity in this ſituation is by no means ſo great as was once imagined. Beans and barley are a fair crop, though of the latter very little was ſown laſt ſeaſon. The crop of potatoes is abundant, and the quality in general fine.

'The importation of grain, during the laſt three months, having been ſo far ſhort of what was expected, the ſtock in the merchant's hands is almoſt exhauſted, and prices in conſequence, particularly of wheat, have advanced conſiderably. Still, however, they muſt go higher, before they come to a level with other markets; and till then we muſt wait for the uſual ſupplies.

'State of Glaſgow Markets, Oct. 26.

'Dantzic Wheat,	40s. to 45s.	per boll Linlithgowſhire meaſure.
American ditto,	30s. — 40s.	ditto of 240 lib. Engliſh.
Iriſh ditto,	32s. — 34s.	
Old Scotch ditto,	38s. — 40s.	ditto Linlithgowſhire meaſure.
New ditto ditto,	30s. — 36s.	
Engliſh Barley,	35s. — 36s.	ditto Stirlingſhire meaſure.
Scotch ditto,	26s. — 29s.	
Ditto Beans and Peas,	21s. — 23s.	
Potato Oats,	24s. — 25s.	
Small ditto,	18s. — 22s.	
Retail price of Hay,	7d. to 8d.	per ſtone.
Ditto Straw,	4d. — 5d.'	

Fife Quarterly Report.

The harveſt became general about the 1ſt September; and ſo favourable did the weather continue for above ſix weeks, that cutting down and carrying in the victual to the ſtack-yards went on without the ſmalleſt interruption. Upon wet lands, the ſeed-time being unfavourable, barley was in many caſes very late; and a good many fields at this date are ſtill out, expoſed to the bad weather which we have had of late; yet none of the grain is injured, the winds which providentially followed the rains having dried it immediately. This late barley is well ripened, and will be fit for malt, though without doubt inferior to early ſown grain in quality.

Oats are univerſally good, both a bulky crop, and of fine quality, ſuperior to 1803 in the number of acres ſown. Many farmers, finding

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no market for that year's barley crop, were this ſpring induced to ſow oats in place of barley.

Barley, for the above reaſon, though of equal quality to crop 1803, is greatly under it in quantity of acres ſown, and number of bolls produced.

Peas and beans are only a middling crop; thoſe early ſown good, the late ones not filled; the ſtraw abundant and well got in.

Wheat turns out better than expected; but generally more or leſs ſmutted; many fields infected to a great degree, perhaps one fourth of the whole crop. Where free from ſmut, and not laid down by rains in Auguſt, the quality is very good. It may however be conſidered, on the whole, not equal to crop 1803.

The wheat-ſeed ſeaſon has been extremely good; and the appearance of the new wheat ſuch as the farmer would wiſh to ſee.

Hay was a light crop, greatly inferior to 1803. The young clovers have a moſt favourable appearance.

Turnips are generally good, and a thick crop; neither being attacked by the fly nor caterpillar, as it is ſaid they were in England, and in ſome counties in Scotland.

Flax, of which a large quantity was ſown, is every where a fine crop, the produce per acre at leaſt double to crop 1803. The high price of this article induced many farmers to ſow flax after potatoes, in place of barley, which, for two years, could not be raiſed with profit, having no market for it. But the flax ſeed is this year of poor quality, and very little of it will be fit to ſow. The demand for Dutch ſeed, therefore, will be great next ſpring; whereas the Scots ſeed, crop 1803, was ſo fine as to equal the beſt Dutch ſeed; at leaſt the produce in flax, per acre, is equal, but the ſeed from the Dutch ſuperior.

Potatoes are of fine quality, and every where an abundant crop, indeed, far beyond an average one; an equal number of acres planted as laſt year, but the produce fully double to that of crop 1803, and in quality they as far excel.

Upon the whole, crop 1804, in this county at leaſt, is conſiderably above an average crop. The ſtack-yards, well filled with good wholeſome grain, preſent the conſolatory view of plenty for man and beaſt; and it may be hoped no complaining will be heard. As trade and manufactures have revived, no man or woman willing to be induſtrious is out of employment. Their earnings are ſuch as to enable them to live with comfort at the preſent rate of proviſions, which is not above the proportion of the rate of wages.

The farmer has a ready market for grain of all ſorts, and he has grain to ſupply the demand. Barley has ſtarted conſiderably, and brings from 20s. to 24s. per boll. Oats (of a quality to give meal for oats) ſell at 20s. per boll; Oatmeal at 20s. per boll; Wheat at 30s., if good. As no ſcarcity of any neceſſary of life is to be apprehended, it is to be preſumed the prices will be ſteady, without going much higher or lower. If ſo, all claſſes will wear their preſent happy appearance of contentment.

The price of cattle, though below laſt year's rate 20 *per cent.*, is perhaps ſtill high enough; and, if trade flouriſh, it is ſuppoſed they will maintain their preſent rates.——*Oct.* 26.

Dumfries-ſhire Quarterly Report.

The weather, ſince the middle of July, appears to have been more variable on this weſt ſide than on the eaſt ſide of Scotland. Both hay and corn harveſts were interrupted by rain, though, after all, the crops may be ſaid to be well got.

Wheat does not appear equal to the promiſing appearance it had in July. In many places, there is a great deal of ſmut; and in others, particularly holm lands, mildew affected the ear before the grain was fully fed. Where this is the caſe, the grain, though clean and well coloured, is hollow, which makes the meaſure weigh light. The beſt wheat we have is on the uplands, upon the dry, though light ſoils.

Barley is a good crop, and well got; but the quantity ſown has been much below an average, owing to the expectation, that the ſales would be leſſened by the high duty on malt. Oats are generally good; and thoſe cut within the month of September, are in good order; but ſuch as were later, have been injured by the weather. The loſs ſo occaſioned has fallen upon farmers who run wholly upon the common or late oats. Thoſe who ſow both early and common oats have the harveſt divided; and many, this ſeaſon, had the half of their crop in the yard before the late ſeed ſowers begun to cut. Various advantages ariſe from ſowing a portion of early oats, beſides the ſecurity from froſts, which ſometimes overtake the late ones. The potato oats appear to keep their pre-eminence upon good land. Even when they lodge, they are more than proportionally better than common oats. The moſt general error of farmers, in the management of all early corns, is the letting them become over-ripe. Much of the beſt of the grain falls, and the ſtraw loſes its ſubſtance. It is not attended to, that a pickle of early oats, cut nearly green, will become firm and meal well, when common oats of the ſame hue are nothing but chaff. Here it may be proper to obſerve to farmers of leſs experience, that early oats become later as the ſame ſeeds continue to be ſown in this country. It has been found, that Poliſh oats, ſown for ten years, will loſe as many days in ripening, and alſo become ſmaller in the pickle. They will grow leſs liable to ſhake; but the original purpoſe failed—their early and ſuperior quality.

Potatoes are a good and full crop. They are now ſhipping at 18d. the cwt., which pays well to the farmer near the coaſt.

The prices of corn has riſen conſiderably. The Liverpool factors are now beginning to ſhip. Wheat, ſound, weighing 60 lib. the Wincheſter buſhel, is worth from 7s. to 8s. Barley at 50 lib. 4s.; but ordinary barley this year weighs 53 lib. Oat meal, in retail, is 2s. 2d. per ſtone. Whether this advance is from the ſtate of the crop, or the effect of the late act of Parliament, is not certainly known. It probably

bly proceeds from both. The effect, however, is rational and neceſſary for the times. Yet if the riſe upon barley proceeds from a leſſened crop, on the idea of a want of demand, owing to the high duty on malt, it is an evil which will affect the progreſs of improvement in agriculture, and alſo leſſen the animal food produced upon improved grounds. Paſtures laid down with barley, it is well known, will yield more growth than when ſown with any other corn.

Turnips have become a better crop than they appeared to be in July. From being generally later ſown, they are not ſo large, but are ſtill growing, and will do ſo for ſome weeks, if freſh weather continues. They will have the advantage of ſtanding more froſt than the early ſown crops. The fields injured by the caterpillar in July recovered in a great degree. Thoſe ate wholly except the fibres, ſhot out again, and have grown turnips, uſeful, though not ſo large as they would have been. Swediſh turnip ſeems to be increaſed in quantity. Still the farmers do not attend to ſow ſo early as the beginning of June, which is neceſſary.

The demand for cattle has been rather better the laſt two months; but it appears that many of thoſe carried to the ſouth have not met with a ready market; and in what ſtate the dealers to the *far ſouth*, as they are called, will return to their winter quarters, is ſtill doubtful. Draught ewes have gone off without difficulty, and without diminution of prices. And notwithſtanding the high price of wool, the Moorland ſheep keep fully up with the Cheviot or long breed.—— *Oct.* 27.

Berwickſhire Quarterly Report.

Our harveſt, which commenced in the laſt week of Auguſt, was favoured with a tract of fine ſeaſonable weather; and, excepting beans, ſome of which were but recently carried, the crop was all ſecured by the 10th of October in excellent condition.

Wheat is a good average crop, though the quality is inferior to that of laſt year. Barley was this year cultivated on a very circumſcribed ſcale, in conſequence of the dull ſale it experienced theſe two years paſt; and the produce is but middling. The oat crop is deficient in bulk, and rather ſmall in the grain; but as a good deal of land, formerly allotted to barley, was occupied by this grain, and as the hill diſtrict was all harveſted in good order, the aggregate return in this county may be reckoned nearly equal to that of ordinary years. Peas are an abundant crop. Beans are alſo productive; but the wet ſeed-time occaſioned their being ſown to a much ſmaller extent than uſual.

Turnips have improven greatly ſince the beginning of harveſt, and may now be reckoned a full crop; but the demand has been ſo limited, that the letting price (per acre) is not yet properly aſcertained. Young clovers are luxuriant, and paſturage has all along been freſh and good; but the foggage or aftermath, from a general deficiency of clover, has not made a great appearance.

We have ſeldom experienced a more favourable ſummer for preparing

the fallows, or a finer ſeaſon for ſowing wheat; all the early fields have made a vigorous braird.

Lean ſtock ſold heavily in the beginning of this quarter, and markets declined in conſequence; but the demand has been upon the increaſe ſince this month commenced, and both ſheep and cattle have been taken off at better prices.——*Oct.* 27.

Letter from a Farmer near Kelſo, Oct. 22.

'From the beginning to the 20th of Auguſt the weather was extremely wet; but, ſince that time, circumſtances have been extremely favourable for field operations. Many farmers cut down their corn, and carried it into the ſtack-yard, without the leaſt interruption; and the whole crop is now completely ſecured in this neighbourhood. It ſeems to be of leſs bulk in the yard than expected when in the fields, which does not augur much in favour of the quality of the grain.

On the 21ſt September we had a high gale of wind, which muſt have ſhaken *good* grain; but as the loſs was trifling, the preſumption is, that little of what was then uncut came under that deſcription. In general, our wheats, both of winter and ſpring culture, are faulty, ſuch ſamples as have appeared at market being by no means fine; and it may be ſuppoſed that the worſt has not yet been preſented. My opinion is, that this grain is one third below an average. Barley is a fair crop with us, but little being ſown, the home conſumption will nearly require the whole produce. Oats appeared a fair crop, though, upon trial, they do not meal ſo well, by nearly a fifth part, as thoſe of laſt ſeaſon. Peas and beans are articles we deal little in; but what we have ſeem to be tolerable. Turnips, although much injured by the black worm, have recovered greatly, and, upon the whole, promiſe to be a full average crop; and the young graſſes are looking ſo well upon all ſorts of land, that it is impoſſible to diſtinguiſh with what grain they have been ſown, or under what management they have been cultivated.

The fallow grounds, from the long dry weather, are in fine condition, and wheat ſeed is getting faſt forward. Lean cattle are bought up pretty readily, at prices very little below thoſe of laſt year. At Wooler fair laſt week, a great quantity of ſheep were ſold. Dinmonts, in good condition for turnips, ſold at the rate of 7d. per lib. ſink. A conſiderable demand appeared for ſwine, and draft ewes brought nearly the ſame prices as laſt year. Few turnips are yet let; but the prices ſeem to ſtart at 6l. or 7l. per Engliſh acre.'

Tweeddale Quarterly Report.

The ſtate of the weather during the quarter has been ſuch as to equal even the moſt ſanguine expectations of the huſbandman. It was favourable to the filling, ripening, cutting down, and bringing in of the grain crops, to a degree ſeldom experienced in this diſtrict. It may be noticed, however, that the heavy rains which took place about the beginning of Auguſt, cauſed a lodging of the crops on ſome fields; but

as the wetneſs was of ſhort duration, it is hoped little damage has been ſuſtained. Harveſt commenced about the 1ſt of September, and at this date ſcarcely a ſheaf of corn is to be ſeen in the fields. This unuſual advantage was obtained, in a great meaſure, from the grain ripening equally faſt upon the high as upon the low grounds, and from a plentiful ſupply of reapers. Oats have ſuffered conſiderably from ſmut, particularly that variety called *potato oats*, which were ſubſtituted in place of barley in many fields that had carried turnips the preceding year. The diſeaſe ſeems to have prevailed moſt upon lands of a thin ſoil, and ſuch as were out of condition. Some of the potato oats have been thraſhed, and it is found that the affected grain diſcoloured that which was found; but it is hoped the operation of the ſhealing-mill will prevent the blackneſs from extending to the meal. Notwithſtanding this drawback, they may be conſidered as an abundant crop.

Few ſales of grain have yet been made; but barley ſeems to be particularly in demand. The quantity raiſed here this ſeaſon is, however, but ſmall, the low prices of laſt year having prevented the cultivation of this grain to the uſual extent. Hay ſold from the rick at 6d. to 8d. per ſtone. It was but a light crop, owing to want of plants. Potatoes are uncommonly plentiful, and of excellent quality. Young clovers have planted well, and appear very luxuriant. Some farmers allow their feeding ſheep to paſture them before they are put to turnips; and it is thought this practice is beneficial to the plants, eſpecially upon light ſoils, ſuch as prevail in this neighbourhood, as the earth is brought more cloſely about their roots by the treading of the ſheep.

Cattle in condition for turnip feeding meet with ready ſale; and old ewes bring from 9l. to 11l. per ſcore, being from 3s. to 4s. per head lower than laſt year's prices. Good horſes are in demand, and bring large prices.——*Oct.* 15.

Upper Ward of Lanark Report.

Excepting ſome heavy falls of rain in the firſt and ſecond weeks of Auguſt, the weather has continued through the quarter exceedingly favourable. Harveſt became general, in this diſtrict, about the ſecond week of September, and the crops were ſecured by the middle of October. In the Moorland diſtricts, however, a conſiderable part is ſtill in the fields.

Crops of all kinds are good, both as to quantity and quality, and may ſafely be eſtimated as amounting to a full average. Turnips are better than expected, conſidering what they ſuffered from the caterpillar in July. Hay, which was a good crop, ſold at 6d. per ſtone from the rick. Cattle markets have been looking up ſince the month of Auguſt, and ſales are readily made. Good horſes are ſcarce, and bring high prices.——*Oct.* 30.

Inverneſsſhire Quarterly Report.

Harveſt is now over in this diſtrict, and ſeldom has finer weather for the purpoſes of cutting down and bringing in the corn been witneſſed.

Crops are fully equal to an average, both in point of quantity and quality. Potatoes, the principal ſupport of the poorer claſſes, are abundant, and are ſelling at 8s. per boll of 256 pints. Importation, if at all neceſſary, will be very limited this ſeaſon. Few ſales of grain have yet been made. Wheat and barley may be reported at 30s. per boll. Turnips are good, and provender of every ſort plentiful. Drovers are now buying all ſorts of cattle briſkly, and at good prices. Sheep are nearly one third below laſt year's prices. Beef and mutton from 4d. to 6d. per lib.——*Oct.* 24.

Eaſt-Lothian Quarterly Report.

From the 3d to the 20th of Auguſt, the weather was variable, generally wet; and ſome of the rains being remarkably heavy, the ſtrong corns were much lodged, conſequently impeded in their progreſs to maturity. The remainder of Auguſt, and the whole of September, furniſhed choice weather for ripening and harveſting the crop, thereby leſſening the damage apprehended to be done by the preceding rains. October has been a variable month, often unfavourable to carrying ſuch crops as remained in the field, but not detrimental to the wheat-ſeed preparation. The ſowing of this grain is therefore far advanced; and if decent weather is got for a fortnight longer, the extent of ground occupied with it will probably be greater than ever known in this diſtrict.

Whatever deficiency of produce may exiſt in other diſtricts of the iſland, it may ſafely be ſtated that none will be found here, except perhaps in the barley crop, occaſioned by a ſmaller quantity being ſown than in former years. Wheat, though it does not yield to the ſtack like that of laſt year, and is of inferior quality, yet, being generally cloſe in the ground, and of great bulk, the return per acre will on the whole not be leſs than the ordinary average. Barley is of good quality, though perhaps not more than one half of the acres cuſtomarily ſown were under this grain. Oats were a ſhort crop; but the quality being fine, and more ſown than uſual, by reaſon of barley being ſo unſaleable, it is not ſuppoſed that the produce will be below a full average. Peas and beans are generally good, and, being harveſted in fine condition, promiſe to be of excellent quality, and more productive than for ſeveral preceding years.

Markets for grain have gradually advanced for ſeveral months; but the chief riſe has been upon wheat, which is at leaſt one third higher than laſt year at this time. A circumſtance may be ſtated extremely creditable to the quality of the wheats raiſed in this diſtrict; and it is done upon the authority of an eminent corn-dealer, who is in the habit of ſending wheat to the London market. This gentleman, oftener than once in the courſe of the quarter has topped Marklane with wheats purchaſed at Haddington; and one day, in particular, his price was four ſhillings per quarter higher than any other cargo preſented.—*Nov.* 2.

Accounts

Account of WHEAT *sold in* HADDINGTON MARKET, *for Ready Money, from December 2d 1803 to October 26th, both days inclusive.*

Dates.	*Weekly Quantity.*	*Weekly Produce.*			*Weekly Average.*			*Monthly Average.*		
1803.	BOLLS.	£.	s.	d.	£.	s.	d.	£.	s.	d.
Dec. 2.	534	716	3	3	1	6	10			
9.	674	872	8	6	1	5	$10\frac{7}{12}$			
16.	569	722	15	3	1	5	$4\frac{10}{12}$			
23.	503	618	17	0	1	4	$7\frac{3}{12}$			
30.	497	603	2	6	1	4	$3\frac{7}{12}$			
	2777	3533	6	6				1	5	$5\frac{4}{12}$
1804.										
Jan. 6.	396	490	6	9	1	4	$9\frac{2}{12}$			
13.	540	670	4	6	1	4	$9\frac{10}{12}$			
20.	384	470	0	3	1	4	$5\frac{9}{12}$			
27.	618	739	19	0	1	3	$11\frac{4}{12}$			
	1938	2370	10	6				1	4	$5\frac{6}{12}$
Feb. 3.	459	546	19	0	1	3	$9\frac{11}{12}$			
10.	484	580	3	6	1	3	$11\frac{8}{12}$			
17.	499	594	10	0	1	3	$9\frac{11}{12}$			
24.	362	433	12	0	1	3	$11\frac{5}{12}$			
	1804	2155	4	6				1	3	$10\frac{9}{12}$
Mar. 2.	395	479	13	9	1	4	$3\frac{5}{12}$			
9.	320	391	15	0	1	4	$5\frac{10}{12}$			
16.	384	478	9	0	1	4	11			
23.	434	539	12	6	1	4	$10\frac{4}{12}$			
30.	413	538	2	6	1	6	$0\frac{8}{12}$			
	1946	2427	12	9				1	4	$11\frac{4}{12}$
April 6.	320	440	9	0	1	7	$6\frac{4}{12}$			
13.	296	424	2	0	1	8	$7\frac{10}{12}$			
20.	384	559	1	6	1	9	$1\frac{8}{12}$			
27.	494	725	7	0	1	9	$4\frac{4}{12}$			
	1494	2148	19	6				1	8	$8\frac{4}{12}$
May 4.	443	635	5	6	1	8	$7\frac{3}{12}$			
11.	608	855	14	6	1	8	$1\frac{9}{12}$			
18.	531	711	18	0	1	6	$10\frac{2}{12}$			
25.	516	691	14	3	1	6	$9\frac{8}{12}$			
	2098	2894	12	9				1	7	$7\frac{11}{12}$

Dates. 1804.	*Weekly Quantity.* BOLLS.	*Weekly Produce.* £. s. d.	*Weekly Average.* £. s. d.	*Monthly Average.* £. s. d.
June 1.	546	758 11 9	1 7 $9\frac{4}{12}$	
8.	368	526 13 6	1 8 $4\frac{2}{12}$	
15.	349	519 17 6	1 9 $9\frac{9}{12}$	
22.	491	772 1 6	1 11 $5\frac{3}{12}$	
29.	427	670 14 3	1 11 $4\frac{11}{12}$	
	2181	3247 18 6		1 9 $9\frac{4}{12}$
July 6.	531	821 5 0	1 10 $11\frac{2}{12}$	
13.	481	748 17 0	1 11 $1\frac{7}{12}$	
20.	376	574 11 2	1 10 $6\frac{8}{12}$	
27.	407	614 9 0	1 10 $2\frac{2}{12}$	
	1795	2759 2 2		1 10 $8\frac{10}{12}$
Aug. 3.	373	545 0 0	1 9 $2\frac{8}{12}$	
10.	362	554 17 0	1 10 $7\frac{10}{12}$	
17.	377	630 11 0	1 13 $5\frac{4}{12}$	
24.	409	704 12 6	1 14 $2\frac{6}{12}$	
31.	331	528 17 6	1 11 $11\frac{5}{12}$	
	1852	2963 18 0		1 12 $0\frac{1}{12}$
Sept. 7.	431	669 14 0	1 11 $0\frac{11}{12}$	
14.	574	840 14 6	1 9 $3\frac{6}{12}$	
21.	633	918 13 6	1 9 $0\frac{4}{12}$	
28.	662	1009 6 0	1 10 $5\frac{10}{12}$	
	2300	3438 8 0		1 9 $10\frac{9}{12}$
Oct. 5.	800	1227 9 3	1 10 $8\frac{7}{12}$	
12.	658	1043 18 0	1 10 $8\frac{4}{12}$	
19.	636	1055 3 0	1 13 $2\frac{7}{12}$	
26.	798	1421 9 0	1 15 $7\frac{6}{12}$	
	2892	4747 19 3		1 12 10

ABS-

ABSTRACT.

	Monthly Quantity. BOLLS.	*Monthly Produce.* L. s. d.	*Monthly Average.* L. s. d.	*Annual Average.* L. s. d.
December	2777	3533 6 6	1 5 $5\frac{4}{17}$	
January	1938	2370 10 6	1 4 $5\frac{6}{17}$	
February	1854	2155 4 6	1 3 $10\frac{8}{17}$	
March	1946	2427 12 9	1 4 $11\frac{4}{17}$	
April	1494	2148 19 6	1 8 $8\frac{4}{17}$	
May	2098	2894 12 0	1 7 $7\frac{3}{17}$	
June	2181	3247 18 6	1 9 $9\frac{4}{17}$	
July	1795	2759 2 2	1 10 $8\frac{10}{17}$	
Auguſt	1852	2963 18 0	1 12 $0\frac{1}{17}$	
September	2300	3438 8 0	1 9 $10\frac{2}{17}$	
October	2892	4747 19 3	1 12 10	
	23077	32687 11 8		1 8 $3\frac{11}{17}$

Atteſted by ARCHIBALD TODRICK,
Clerk of the Market.

Letter from a Gentleman near Perth, Oct. 24.

'Our harveſt in this quarter of Perthſhire was as quick as any one on remembrance. Many people finiſhed cutting in three, and few exceeded four weeks. Wheat may equal the quantity of laſt year, but the quality is much inferior. Barley is defective both in quantity and quality. Oats kept long back in ripening, and, though much lodged by the rains, appear on the whole to be ſuperior to laſt year's produce. Potatoes are a full crop. So are Turnips: But lint, of which a great breadth was ſown, turns out but poorly at the mill.

Live ſtock continue to bring good prices; and, from the great plenty of *keep*, it is probable, that no material change will happen in the remaining part of the ſeaſon. Harveſt wages were high. There is a rivalſhip in this county betwixt the manufacturer and farmer; therefore, high wages muſt be given, before the weaver can be induced to leave his loom, even during the harveſt months.'

Extract of a Letter from George Dempſter Eſq., dated Dunichen, Oct. 31.

'Such a ſeaſon as the preſent, God in his providence never beſtowed on Scotland—ſuch an autumn, I mean. For it ripened our wheat, brought in our hay, flax, corn, and potatoes, without the leaſt injury from rain or wind. This muſt not have univerſally been the caſe, otherwiſe victual could not bear its preſent price. We had a ſale, by auction, of 100 head of Highland cattle yeſterday, which brought on an average 30 *per cent.* above the prices of ſuch cattle in Sutherland. They were ſmall creatures, and chiefly purchaſed by gentlemens'

tlemens' grieves, for their maſter's tables. The grain market looks up here. I have ſold my wheat at 29s. per boll. Good barley is 22s. 23s. to 24s.'

ENGLAND.

Northumberland Quarterly Report.

The weather, for the laſt quarter, has in general been favourable for the purpoſes of agriculture. Two froſty nights, in the latter end of July, came very opportunely for deſtroying the black caterpillars, which were making great ravages amongſt the young turnips; theſe froſts were ſucceeded by ſome rains in the beginning of Auguſt; after which, the weather was (with few exceptions) uniformly dry, and, of courſe, the harveſt has been remarkably fine, and the crops carried in the moſt deſireable ſtate.

It was obſerved in the laſt report, that the wheat crop had the appearance of being thin, which, on reaping, has proved even worſe than was then apprehended: and attended with the ſingular circumſtance, of being moſtly lodged, though the crop was ever ſo thin, and ruſted, or cankered in the ſtraw; a diſeaſe which prevents the grains from receiving their proper nouriſhment, and makes them ſkinny and ſmall; the conſequence is, that a good ſample of new wheat is rarely to be ſeen, and is everywhere very inferior to the produce of laſt year. In this diſtrict, the wheat crop may be ſafely ſtated to be conſiderably below an average; and, in the county of Durham, matters are ſtill worſe.

The crops of barley on dry lands were abundant; but on ſtrong loams, and moiſt ſoils, very thin; and, from the low price at which this grain was ſold laſt year, lands that would have been appropriated to barley, were ſown with other kinds of grain, which occaſions the quantity in this county to be much below the average produce of other years.

Oats are in general a fair average crop. Beans and peas were never known better, and are conſiderably above an average.

The turnip crop on dry lands is remarkably good: the plants that had their leaves eaten off with the black caterpillar, revived by the rains and ſucceeding warmth in Auguſt; and are now ſcarcely to be diſtinguiſhed from thoſe that eſcaped the ravages of this reptile.* Upon ſome

* In your laſt Yorkſhire report, it is ſtated, that '*probably ſome attention to Vagg's method of night-rolling might have been beneficial.*' On this I muſt beg leave to obſerve, that night-rolling was not an original invention of Mr Vagg: the merit (if it has any) is due to Mr Ellis, who practiſed and publiſhed it many years before Mr Vagg offered it at ſecond hand to the public, and enriched himſelf, by pretending to divulge *a ſecret* for deſtroying the *turnip fly*; but which turned out to be the *ſlug*, which every reader of Ellis had *long been acquainted with*.

ſome very dry lands, there is an appearance of mildew, which will check their growth and deteriorate the produce.

Potatoes are every where an abundant crop, and good in quality.

The wheat ſowing is nearly finiſhed on ſummer fallows, and alſo after drilled beans, the lands being moſtly in fine tilth, though in ſome places the ſtrong ſoils are rather too dry for the ſeed vegetating with ſafety.

Our markets for live ſtock have lately been on the decline. Beef from 6s. 6d. to 7s. 6d. Sheep from 6d. to 7d. per lib. ſinking offals. The corn markets are getting up, particularly for wheat and barley.——22. *October.*

Letter from an extenſive Farmer in Dorſetſhire, October 22.

'Our proſpect is gloomy. We had a fine harveſt, it is true; but, a fortnight before it began, we evidently ſaw ſtrong ſigns of blight, which daily increaſed and occaſioned many people to cut down the wheat before it was ripe; they being of opinion, that it was better to cut it then, and let it ripen in the ſtook. I cannot ſee a reaſon for this, unleſs it is ſuppoſed that the blight increaſes by the corns ſtanding uncut. During the harveſt, we had ſome fine ſeaſonable rains, and the grain *appeared* to get plumper; but now that the moiſture is evaporated, the grain is returned to the ſtate it was in before. I have lately been in Devonſhire, and in the neighbourhood of Somerſetſhire. Speaking in general, the wheat is certainly worſe, both in grain and quantity, than it has been for many years. I truſt, however, there are many exceptions. I have thraſhed enough to be certain, that I ſhall not average 12 buſhels Winchester meaſure, per Engliſh acre; and of that a good deal is ſhrivelled and pinched. Our barley crops are decent, by no means abundant; not more than two thirds of laſt year's crop, which was a good one.

'Oats are but a middling crop with us, but we ſeldom reckon upon this grain; for you know what Johnſon ſaid of them. Indeed, we never do them common juſtice, ſowing them generally on lands where ſcarce any other grain will grow. Peas were a very decent crop. Of beans, we ſow or plant but very few. Here is ſome quantity of old wheat left; but as the full wheat ſeed time is come, the flails are rebounding in every barn, (we have but few thraſhing machines yet), and a ſhilling per buſhel and more has been given for thraſhing, which in common ſeaſons is done for 3d. 3½d. and 4d. On account of the quality being ſo bad, moſt people are ſowing old wheat; conſequently, the demand for it is conſiderable, and thoſe who have any that is good, get 12s. per buſhel; others 10s. 6d., and 9s. 6d.

'Of barley there is but little thraſhed yet, for the above reaſon, as well as the fear of a ſcarcity of fodder during the winter. What comes to market is from 5s. to 5s. 6d. per buſhel. As to oats, few are yet thraſhed; price uncertain, but about 3s. and upwards. To change the ſcene—Hay was an abundant crop, and well ſecured; the aftermath exceeding good, and a fine ſeaſon for feeding it off. Fat beaſts have been rather plenty all the ſeaſon, and no want of ſtock coming on in hand. The old ewes at Weyhill-fair ſold wonderfully well.

well. You will recollect great numbers of them are very forward in lamb. Some lambs fell going up to the fair, and were carried on by the ſhepherds. From theſe ewes the London market is ſupplied with houſe-lamb; but numbers of the ewes will not yean till near Ladyday, the greater part from about Chriſtmas to Candlemas. The forwardeſt ſold for 60s. per head, and from thence down to 40s.; but the average of the better ſorts about 50s. Fat beef now ſells at about 11s. per ſcore of 20 lib. ſinking offal. Mutton 8d. per lib. of 16 ounces, ſinking do. This year's lambs, ſhorn about Midſummer, ſold at the laſt fairs (I mean male lambs gelt—females are ſeldom ſold, except by chance) from 14s. to 18s. and 20s. per head.

'We are pretty forward in our wheat ſeeding juſt round this place, tho' we are later than elſewhere. We have more than half done. The land works very well; for, generally, it is ſown on a clover lea of one, two, and ſometimes three years ſtanding, on one earth, (one ploughing) worked in with very heavy harrows after it is ploughed. The farmers were completely frightened laſt ſpring. Barley ſunk to 2s. 6d. per buſhel, and but little demand in appearance. They gave it to their pigs and horſes as nothing worth: but before harveſt it got up to 5s. and 5s. 6d. per buſhel, and none hardly to be had. What ſhort-ſighted mortals we are, and frightened at our own ſhadows, entirely forgetting what times we had only two years ſince!

'You ſay your rents are ſtill creeping up: we have caught the infection, and the malady is likely to increaſe, for the landlords have taſted the ſweets of it. You aſk, how is the property-tax liked; or rather, how is it paid on the old rents? As little increaſe as poſſible.

'We have but few long leaſes; ſeven, twelve, or fourteen years, are generally the longeſt. I believe the large farms are leaſt taxed: I need not ſay why. It is certainly more productive than the income-tax. The greateſt evaſion has happened in caſes where the landlord occupies his own lands.

Letter from a Farmer in Wales, Oct. 22.

'From the date of my laſt (July 15th) to the middle of Auguſt, we experienced a tract of cold unfavourable weather, with wind and rain, which unfortunately did much injury to many of the growing crops. Wheat till then had a fine appearance, and promiſed to yield a good return; but nothing is certain; for we have been completely diſappointed, particularly in low ſituations. The late ſown fields, and thoſe upon high grounds, generally eſcaped the blight. Few good ſamples are however to be ſeen; the beſt are from cold ſoils; and every one complains of the ſmall return, though the fine harveſt was certainly much in favour of its improvement. Barley never had a good appearance. The earlieſt ſown fields are worſt, which is an uncommon circumſtance. Oats, peas and beans, are all to be doing with; that is, they are equal to an average.

'We are now buſy ſowing wheat. Thoſe who ſowed early had a fine ſeaſon,

ſeaſon, and the grain brairded finely; but the laſt ten days, being wet, have forced thoſe who were behind, to leave the fallows till they get into better condition. Corn markets have advanced greatly ſince harveſt, and are likely to keep up. Cattle and ſheep have a dull ſale, but the prices are not to be complained of. All improvements here are at a ſtand, except the iron-works, which are daily increaſing. I am told that the Glamorganſhire iron now exceeds in quality that of the beſt foreign; of which there can be no better proof, than the demand from every part of the iſland where it has been tried. As a good part of this demand is from Scotland, it is my duty to ſtate, that all the iron made here is not of the ſame quality: that manufactured by the Dulais Company, and marked D. Co., may be depended upon, and is every thing with our ſmiths, who certainly may be reckoned competent judges.

Yorkſhire Quarterly Report; with a Retroſpective View of Rural Affairs, for 1804.

During the heavy rains of laſt Auguſt, the proſpect of the harveſt was rather gloomy: ſince that time, the ſeaſon has been one of the moſt favourable ever known. Whether by thoſe rains, or from whatever cauſe, the wheat crops are likely to be very unproductive, on account of the mildew, which has been almoſt general in this diſtrict; to that degree, that even one fourth of an average crop has not been obtained, in ſome inſtances, from the flail. However, there are ſtill ſome few good crops; and ſome of thoſe, in ſituations and aſpects, which render it extremely difficult to account for their eſcape from this pernicious ſcourge.

Barley and oats are deemed rather above than below the uſual produce. Beans are uncommonly good and productive, and moſt of them are ſtacked in the beſt condition. Potatoes are excellent, and plentiful. The beſt Wheat is about 11s.; Barley 5s.: Oats 4s.; Beans 6s. 6d.; Rye 5s. 6d. per buſhel of Wincheſter; Potatoes 3s.; Apples 8s. per buſhel upheaped. Rape and flax are thought to be deficient in ſeed; the prices advancing.

The ſummer fallowing, except by the more diligent cultivators, has not been ſo completely executed as might have been expected. Turnips were ſown upon very good tillages, but promiſed ill during the early ſtages of their growth: they now exhibit a very fine and plentiful aſpect, and ſome have been ſold about 5l. per ſtatute acre.

The late rains, though plentiful, were not ſuch as to hinder materially the ſowing of wheat, even on moiſt ſoils; yet that operation is in a backward ſtate; very little having been ſown as yet. Clovers and other ſeeds are very promiſing, and the after-graſs, or fog, abundant; ſo that there is a probability of the ſtocks of cattle being well ſupported during the enſuing winter. Clover ſeed, the produce of the preſent year, is ſuppoſed to be very deficient.

Lean cattle and ſheep are in demand, and are ſelling at good prices.

Hay

Hay is about 4l. to 5l. per ton. Fat cattle, ſheep, and hogs, are at moderate prices. Beef, 7d. to 8d. Mutton and Pork, 7d. Veal, 9d. Butter, 1s. 3d. per lib. Avoirdupois.

On a review of the whole year, it may be obſerved that the commencement of it was marked by moſt unfavourable circumſtances of weather; by which the check to vegetation of all kinds was ſo great, as abſolutely to threaten the want of every thing neceſſary to ſupport the live ſtock; conſequently forage appeared riſing to a price hitherto unheard of. But the farmer ſhould never deſpair; for ſo ſudden a burſt of growth as that which immediately ſucceeded, was ſcarcely ever before experienced; and in one week, about the end of April, the face of nature, as if by magic, was completely changed, and the ground was clothed with the moſt delightful verdure; much more delightful, as it ſo much exceeded our utmoſt hopes and expectations.

Since the above period, a moſt promiſing aſpect of plenty of every thing ſeemed uniformly conſpicuous, until the appearance of mildew about the middle of Auguſt; the cauſe of which pernicious blaſt to our beſt grain ought, in the opinion of the writer of theſe lines, to be much more aſſiduouſly inveſtigated than it has been, that perchance, if not entirely dependent on phyſical cauſes not at all within our reach, ſome remedy or palliative may be diſcovered.

What may be more particularly inculcated in this review of the paſt ſeaſon, in order to future improvements, is, that the ſowing of all kinds of grain ought to be performed as early as poſſible; the proper ſtate of preparation by tillage and manuring being premiſed, theſe being the only artificial means of an early harveſt; and alſo that the reaping of grain, particularly of wheat, ought to be done in a much greener ſtate than is generally practiſed. Theſe circumſtances attended to, would be productive of the moſt beneficial effects, both to the quality of the grain, and the eaſe and ſafety of harveſting, while days are longer and weather drier than afterwards; effects which have been very convincingly offered to the diſcerning mind during the ſeaſon under review. It has certainly been within the obſervation of the writer, that wheat ſown as above, on late and backward ſoils, in the laſt week of September or firſt of October, has been reaped in a perfect ſtate the third week in Auguſt; while wheat ſown (*cæteris paribus*) in the ſecond week in November, was ill reaped in the third week of October inſtant, and the loſs by high winds almoſt incalculable. Beans alſo that were ſown in the firſt week of March have been houſed and thraſhed in the ſecond or third week of September, while thoſe ſown in April are now in the fields, and ſome of them uncut. Where the reaping of mildewed wheat has been too long delayed, the effect is very remarkable; that reaped in a green ſtate affording a tolerable ſample, while ſome of that reaped dead ripe is ſhrivelled up ſo as to be fit for nothing but hogs and poultry.

The preſent advance in wheat may be accounted for from the ſupply being inadequate to the demand; from the effect of mildew and blaſting,

blaſting, &c.: but, no doubt, many will attribute it in part to the operation of the corn bill of laſt ſeſſion of Parliament: if at all juſtly, that bill will ſoon be viewed in the light of an unpopular meaſure, and may be the means of future caution and check to the arrogance of affected political foreſight in matters utterly out of the reach even of the too much boaſted omnipotence of political regulation.

The abundant product of forage, with the excellent ſtate in which much of it has been ſaved, added to the ſeaſonable rains for the after-graſs and turnips, muſt relieve the farmer from all anxiety in reſpect to the winter ſubſiſtence of his cattle and ſheep, eſpecially if it prove tolerably open weather till near Chriſtmas.

The dry weather of the harveſt has this year been of moſt ſingular uſe; for the ſtate of the wheats in particular was ſuch, that much wet weather in ſucceſſion would have entirely ruined the crops of that grain, and might have been productive of very unpleaſant, if not fatal conſequences. However, on the whole, we may venture to conclude, that the proſpect at the cloſe of the preſent year is more favourable to the agriculturiſt, though, unfortunately, leſs ſo to the public, than at the cloſe of the laſt.——*Oct.* 26.

Letter from Lynn (Norfolk) Oct. 29.

'In the abſence of your ordinary reporter, we beg leave to furniſh you with a few particulars concerning the crops and markets of this diſtrict.

'About one half of the wheat crop is materially injured by mildew, and in many places it is tainted with ſmut, which things neceſſarily cauſe qualities to be very variable. Some people houſed their wheats when in a tender ſtate; but the generality being in fine condition, and the number of acres under this grain greater in this than in the laſt ſeaſon, we truſt that this county will be able to export its uſual quantity.

'Barley is deficient at leaſt one fourth of laſt year's crop as to quantity, but the quality is good. Oats are conſidered to be ſhort of an average. Peas are unqueſtionably good; but beans are a ſhort crop, having ſuffered much from mildew.

'The farmers are now buſily employed in ſowing their wheat lands; and the work has been greatly facilitated by ſome fine rains ſent us lately. The delivery of grain has not hitherto been conſiderable; but the demand being great, a rapid advance of prices has taken place. Annexed you have a ſtate of prices here per quarter, put free on board.

'Beſt new wheat - -	80s.	Oats - - - -	23s.
Runs of old ditto, - -	76s.	Beans (old) - -	40s.
Ditto of new ditto	68s. to 76s.	White peas,	48s. to 52s.
Ditto coarſe and black	60s.	Grey ditto - -	40s.
Rye - - - - - -	40s.	Winter tares - -	38s.
Barley - - - - -	42s.		

'The crop of turnips is excellent this year.'

Letter from London, Oct. 30.

'From the general bad quality of the new wheat preſented at Mark-Lane, I am ſorry to ſay that the injury from blight appears to have

been more extenſive than was ſuppoſed when I wrote you laſt. The beſt ſamples are inferior to laſt year's; and the great bulk of what has been yet produced will not yield more than two thirds of the fine flour which the average of laſt year produced. In conſequence of this, the price of wheat has very conſiderably advanced, notwithſtanding the conſiderable ſupply of foreign wheat, which has been all quickly bought up. The quantity of new barley yet at market has been ſmall, and the crop ſuppoſed not to be ſo great as was expected, from which the price has alſo much advanced. The bean crop is eſteemed a good one; but as there has been no great ſupply, and a conſiderable demand for the Weſt Indies, prices have been on the advance for ſome weeks paſt. Hog peas are good in quality, and are now coming pretty freely to market. The new oats that have been ſold at Mark-Lane, have in general been of fine quality, and very dry and well harveſted. White peas are but of ordinary quality, and the crop not great, which has cauſed a conſiderable advance on boiling peas. We have had very favourable rains during this month, which has enabled the farmers to get their wheat ſown in the beſt order; and the weather being remarkably mild for the ſeaſon, the early ſown wheats are looking well.

State of London Markets, October 29th.

New Wheat - -	48s. 63s. 72s. to 78s. to 84s.
Old Wheat - -	52s. 76s.; fine 88s.; fine white 90s. to 92s.
Foreign Red - -	52s. 78s. 82s.
White Dantzic -	75s. 85s.; fine 90s.
Black Wheat -	60s, 70s.
Rye - - - -	38s. 42s.
Barley - - - -	44s. 48s.; fine, new and old, 50s.
Malt - - - -	80s. 86s.
White Peas - -	42s. 45s.; Boilers, 56s. 60s.
Grey ditto - -	42s. 44s.; new, 45s.
New Small Beans	46s. 48s.; old 52s.
New Tick Ditto	42s. 45s.; old 48s.
Oats, Long Feed	21s. 24s.
—— Short Smails or Friezlands,	24s. 27s.; fine old 29s.
—— Polands - - - - -	25s. 27s. 29s.; fine old 31s.

All per quarter of 8 Wincheſter buſhels.

Fine Flour, delivered to the bakers, 70s. 72s. to 76s.; fineſt 78s. *p.* ſack.

Red Cloverfeed - -	40s. 60s. 84s.; fine, 90s. 105s.
White ditto - - -	80s. 90s.; fine, 112s.
Trefoil - - - -	30s. 40s.; fine, 48s. per cwt.
Old Hops in bags -	60s. 70s. 76s.; new, 75s. 84s. 90s.
Ditto in pockets to	80s.; new, 80s. 90s. to 98s. per cwt.
New Hay - - -	60s. to 80s. per load.
Old ditto - - -	80s. to 86s. per load.
Straw - - - -	32s. to 38s. per load.
Beef - - - - -	4s. 6d. to 5s.
Mutton - - - -	3s. 6d. to 4s. 8d.
Pork - - - -	4s. to 4s. 4d.—All per ſtone of 8 lib.

Price

Price of Flour, Oct. 29.

Fine Engliſh Flour	75s. to 80s.	American Flour	48s. to 52s.
Second ditto -	70s. — 75s.	Per ſack of 5 buſhels, or 280 lib.	

Weight and Price of Bread.

Peck Loaf weighs	17 lib. 6 oz. 6 dr. -	ſold for 4s. 3d.
Half Peck Loaf -	8 lib. 11 oz. 0 dr. -	2s. 1½d.
Quartern Loaf -	4 lib. 5 oz. 8 dr. -	1s. 0¾d.

Manſion-Houſe, Tueſday, Oct. 23.—Official Return of Flour, including from the 13th of Oct. to the 19th of Oct.

Total, 21,870 ſacks.—Average price 73s. 1¾d.—3s. 7¼d. higher than laſt week.

Return of Wheat in Mark-lane, including only from the 8th of Oct. to the 13th of Oct. agreeable to the new Act.

Total, 18,494 quarters.—Average 72s. 11d.;—11d. higher than laſt return.

Price of Grain at Uxbridge.

Thurſday, Oct. 25.—Wheat per load, 18l. to 25l.—Barley per quarter, 2l. 2s. to 2l. 6s.—Beans per quarter, 2l. 4s. to 2l. 6s.—Oats per quarter, 1l. 9s. to 1l. 15s.—Peas per quarter, 2l. 8s. to 2l. 12s.

Average Price of Corn per Quarter.

Great Britain, for the Week ending Oct. 20.

Eng. & Wales.	s.	d.	Scotland. s.	d.	Eng. & Wales.	s.	d.	Scotland. s.	d.
Wheat -	68	8	55	10	Beans -	36	5	34	7
Rye -	38	10	36	10	Peas -	35	8	33	11
Barley -	36	0	29	8	Oatmeal -	19	8	19	9
Oats -	25	3	23	4	Big -	25	8	21	2

State of Country Markets, &c. in England.

Wakefield, Oct. 26.—Our ſupply of grain for this day's market was not large, and ſuperfine wheats were readily ſold at from 7s. to 8s. per quarter advance. The inferior kinds were alſo ſaleable at an advance of from 3s. to 4s. per quarter. Oats remain with little alteration. Barley little at market; and as well as Malt ready ſale, at a ſmall advance. Beans are alſo in great demand, and good ones 4s. per quarter dearer.

Per Quarter Winchefter.—Wheat South country, 46s. 60s. to 66s. fine 88s. Ditto Lincolnſhire, 46s. to 88s. Ditto Holderneſs, 46s. to 88s. Ditto New, none. Barley, Norfolk and Suffolk, New, 42s. to 44s. Ditto ditto Old, 30s. to 34s. 6d. Ditto Lincolnſhire, Old 40s. to 42s. Ditto Seconds, none. Ditto Yorkſhire Wolds, 42s. to 44s. Oats, 23s. to 28s. Beans, South country, 40s. to 45s. Ditto Lincolnſhire, 40s. to 45s. Ditto Holderneſs, 40s. to 45s. Ditto

ditto New, none. Tares for Seed, 56s. to 60s. Peas, White, none. Malt, South country, 60s. to 74s. Ditto, Lincolnſhire, 66s. to 74s. Ditto, Yorkſhire Wolds, 66s. to 74s. Flour, fine, per Bag of 280 lib. 54s. to 56s. Rapeſeed per Laſt, 44l. to 46l.

Leeds.—Wheat, 27s. to 35s. per load. Rye, 20s. Beans, 18s. to 19s. Oats per quarter (8 buſhels), 26s. to 33s. Barley, 32s. to 42s. Shelling, 36s. to 42s.

Carliſle, Oct. 26.—*Grain*—New Wheat, 21s. Old ditto, 24s. Rye, 14s. Barley, 12s. Potato Oats, 9s. 6d. Common ditto, 8s. 1d. per Carliſle buſhel. Fine Flour, 2s. 2d. Oat-Meal, 2s. 2d. Barley Meal, 1s. 6d. Rye Meal, 1s. 6d. per ſtone.—*Butcher Meat*—Beef, 6d. Mutton, 6d. Veal, 5d. Lamb, 5d. per lib. Hams, 9s. Bacon, 8s. per ſtone. Freſh butter, 12d. to 13d. per lib. Firkin Butter, 12d. Ditto per firkin, 35s. to 45s. Potatoes, 2d. to 3d. per hoop.

Nottingham, Oct. 20.—Wheat, 71s. Rye, 38s. Oats, 24s. 6d. Barley, 36s. Beans, 43s.

Derby, Oct. 20.—Wheat, 71s. Rye, 38s. 6d. Oats, 25s. Barley, 36s. 6d. Beans, 43s.

Lincoln, Oct. 20.—Wheat, 86s. Rye, 38s. Oats, 24s. Barley, 36s. 6d. Beans, 43s.

Warwick, Oct. 20.—Wheat, 72s. Rye, none. Oats, 27s. Barley, 37s. Beans, 43s.

Leiceſter, Oct. 20.—Wheat, 69s. Rye, 38s. Oats, 25s. Barley, 35s. Beans, 42s. 6d.

York, Oct. 20.—Wheat, 68s. Rye, 36s. Oats, 23s. 6d. Barley, 35s. Beans, 42s.

Glouceſter.—Old Wheat, 10s. 6d. to 11s.; New ditto, 10s.; ditto for ſeed, 10s. 6d. to 11s. Barley, 6s. Old Beans, 7s. to 7s. 6d.; New ditto, 7s. Oats, 4s. to 4s. 6d. White Peas, 9s.; Grey ditto, 7s. per cuſtomary buſhel of 9½ gallons.

Tewkeſbury.—Wheat, 9s. to 10s. Barley, 5s. 4d. Peas, 7s. 3d. Oats, 4s. 4d. per buſhel. Flour, 66s. per ſack. Beans for ſeed, none; other beans, 16s. to 18s. 6d. per bag.

Worceſter.—Wheat, 9s. 6d. to 10s. Barley, 5s. 4d. to 5s. 7d. Beans, 6s. to 7s. Peas, 5s. 10d. to 6s. Oats, 3s. 8d. to 4s. 6d. per buſhel of 9½ gallons. 1651 pockets of Hops were weighed on Saturday, of which the current prices were from 3l. 14s. to 4l. 4s. per cwt. At Stourport, on Thurſday, 540 pockets of Hops were weighed; prices from 3l. 15s. to 4l. 4s. per cwt.

Hereford.—Wheat, 8s. 6d. Barley, 5s. 5d. Oats, 4s. 8d. Beans, 6s. 3d. Peas, 6s. 3d. (10 gallons.)

Roſs.—Old wheat, 11s. to 11s. 6d.; New ditto, 10s. 6d. to 11s. Barley, 6s. 6d. to 6s. 9d. Old oats, none; New ditto, 3s. 6d. to 4s. Grey Peas, 6s. 6d. to 7s.; White ditto, 8s. 6d. to 9s. Beans, 6s. 9d. to 7s. per buſhel of 10 gallons.

Devizes.—Wheat, 63s. to 80s. Barley, 36s. to 38s. Oats, 26s. to 30s. Beans, 44s. to 50s. per quarter.

Reading.—

Reading.—Wheat, 50s. to 92s. Beans, 37s. to 43s. Peas, 47s. to 48s. Oats, 24s. to 33s. Barley, 34s to 37s. per quarter.

Warminſter.—Wheat, 66s to 82s. Barley, 43s. to 45s. Oats, 30s. to 34s. Beans, 58s. to 62s. per quarter.

Cheſter.—Wheat, 8s. Barley, none. Oats, 3s. 3d. average, per Wincheſter buſhel.

Chicheſter.—Wheat, 21l. to 21l. 10s. Barley, 42s. Oats, 28s. to 30s. Peas, 36s. to 38s. Flour, 70s. to 72s. per ſack.

Havant.—Our market ſtill continues on the advance. Beſt Wheats are conſiderably higher than laſt week, and the inferior ſorts find a ready ſale at better prices. Barley ſells at 43s. Oats, Beans, and Peas, have obtained a trifling riſe.

At the Swinſtead Fair on Monday, notwithſtanding there was a large ſhow of ſheep, they ſold dearer by 5s. a head than at Corby Fair.

Provincials.—Exceſſive rains, day and night, have within a fortnight fallen in Cumberland, thereby rendering the roads almoſt impaſſable; and, at length, the different bridges in the ſuburbs of Carliſle were inacceſſible, being ſurrounded with water. On Tueſday morning, the united rivers of Caldew and Eden, overflowing their boundaries on all ſides, preſented to the eye one undiſtinguiſhed ſheet of water. Some acres of potatoes and of newly ſown wheat, ſeveral ſheep and young cattle, were ſwept away.

On the Wolds of Yorkſhire, plantations continue to be formed daily, on a conviction that the land is not leſs improved by them, than the beauty and appearance of the country.

The Potato.—This excellent and wholeſome root is very rarely cooked in the manner it merits, and whereby it may be made into food at leaſt as nutritious as any ſpecies of our diet. The following is the true Lancaſhire receipt:—'Sort out your potatoes as to ſize, ſcrape off the rind, put them into an iron pot, (if caſt iron the better), ſimmer them until they begin to crack, and a fork will pierce them eaſily; after this, pour off all the water, put away the lid of the iron pot, ſprinkle over them ſome ſalt, and ſhake up well; after this, place the pot at the edge of the fire, and there let it remain for an hour, or more: in this time, all the moiſture of the potato will gradually exhale in ſteam, and you will find them (be the ſort or growth what it may) white and fleaky as ſnow, and in ſuch a ſtate of eating, as thoſe only can judge who have tried them. Take them out with a ſpoon or ladle.'

Liverpool Meteorology—From January to June 1804.

January.

Barometer high, fair and ſun.—3d, Froſt.—5th, Snow.—7th, Hail and ſnow: Cold weather.—10th, Miſty rain.—18th, Windy, ſun, ſtill rain.—24th, Cloudy, and rain to the end.—28th, Very windy, and the glaſs roſe high: For the moſt part a mild month. Hygrometer moiſt. A deal of intermitting ſun upwards of 22 days: thoſe of hail, rain and ſnow, 20 days.

Greateſt approxim. of wind to the ſouth.

	In.	Dec.		In.	Dec.
Depth of rain,	3	2	Evaporation of water,	0	75

February.

Sun, little rain, and ſnow in the nights.—4th & 5th, Windy.—6th, A ſharp froſt: P. M. aurora borealis.—8th, Foggy.—11th, Eclipſe of the ſun, attended with much rain, (previous to the conjunction, in London it was ſtormy), afterwards fair and froſt.—13th, Every thing remarkably forward.—22d, Cold winds.—24th, Very windy, followed by rain.—29th, Fair, ardent ſun: No clouds in Zenith. In general, a dry, warm month: Intermitting ſun, ſometimes ardent, for 22 days.—Rain, hail and ſnow, more or leſs, 13 days.

Greateſt approxim. of wind to the North.

	In. Dec.		In. Dec.
Depth of rain	0 99	Evaporation of water	1 1

March.

Fair and froſt. Wind changeable. Veered round to the S. E.; and on the 3d much ſnow: Sleet.—6th, Fair, and cold winds.—10th, Fair and ſun: Windy.—13th, Rain, cold winds, and foggy.—23d, Fair and ſun, windy.—28th, Sun, and little rain to the end. The air for the moſt part dry, though a cold and windy month. Intermitting ſun more or leſs 17 days; thoſe of rain, hail or ſnow, 20 days.

The greateſt approxim. of wind to the ſouth.

	In. Dec.		In. Dec.
Depth of rain	2 5	Evaporation of water	1 5

April.

Windy 3d.—Froſty, with ſleet and ſnow, to 6th.—8th, Cloudy, with rain and wind.—18th, Fair and ſun; little hail.—23d, Changeable.—26th, Fair and ardent ſun.——For the moſt part a dry month, except about the 16th, rather cold, with hail and ſnow.

Intermitting ſun upwards of 21 days. Hail, rain and ſnow, 15 days.

Greateſt approxim. of wind to ſouth.

	In. Dec.		In. Dec.
Fall of rain,	1 75	Evaporation of water,	1 75

May.

Fair ardent ſun 4th, at night a heavy thunder ſtorm here and within the verge of Liverpool many miles. It came with the direction of the wind S. by E. as it was tremendous at Bath in the afternoon.—7th, Fair ardent ſun; little rain.—21ſt, Electric ſhowers; much rain.—24th, Three P. M. wind S. W. by S. a thunder ſtorm broke with heavy rain. At nine P. M. wind at N. W. with the comparative velocity of 33 or 28 ounces on a ſquare foot. Great thunder ſtorms in the neighbourhood before, which might be expected from the denſe clouds that have paſſed ſince the 18th inſtant.—25th, Cold and windy, and changeable to the end.

Intermitting ſun 19 days.—Hail, rain, and ſnow, 10 days.

Greateſt approxim. of wind to the South.

The winds, or rather ſqualls, on the 16th, 24th, to the 29th, have been detrimental to agricultural concerns.

	In Dec.		In. Dec.
Fall of rain,	3 0	Evaporation of water,	2 8

June,

June.

Sun and rain.—7th, Very windy.—11th, Fair, ardent ſun.—14th, Rain.—18th, Ardent ſun.—24th, Thunder ſtorm here, but more particularly at Runcorn in Cheſhire.—25th, Fair and ardent ſun to the end. For the moſt part a dry and warm month. The days of ardent ſun nearly 22: thoſe of rain 11.

Greateſt approxim. of wind to N.

	In.	Dec.		In.	Dec.
Fall of rain	1	22	Evaporation of water	3	5
Jan. & June inclus. as meaſured by G. J.	12	66		11	40

POSTSCRIPT TO SCOTISH INTELLIGENCE.

Mid-Lothian Quarterly Report.

With the exception of about three weeks of almoſt daily rain previous to the 17th of Auguſt, which threatened deſtruction to the growing corn, the laſt quarter has been diſtinguiſhed by moſt favourable weather for the various field operations. The ſucceeding dry and hot weather haſtened the harveſt, and rapidly brought the grain to complete maturity, even in the higheſt ſituations of the county, where in general it has been ſecured in the moſt healthy ſtate.

It is true, that ſome fields of wheat are much affected with ſmut, and others, where too rank, will produce grain of rather an inferior quality; but, upon the whole, the various crops may be rated at fully an average, and oats conſiderably above it. Potatoes alſo are abundant, and excellent in quality. The averages of the caterpillars upon the turnip crop were as ſuddenly terminated as their attack was unexpected; and far leſs injury has been ſuſtained than was dreaded or committed laſt year by their pigmy forerunners. The crop, in conſequence, may be deemed good.

Wheat ſowing is nearly brought to a cloſe, and hitherto has been finiſhed in excellent *trim;* in ſhort, few ſeaſons have afforded the farmers ſuch ample proſpects. It is to be dreaded, however, that theſe tranſient circumſtances may elate ſome ſo far as to forget the *paſt*, and to judge of the *future* by the *preſent* in the renting of land, which may prove injurious to themſelves as well as the community; ſeveral inſtances of which have already occurred to warrant the remark.

From the want of a market for barley for the two laſt ſeaſons, perhaps there is not more than one half of the uſual quantity raiſed within the county. So ſhort-ſighted are mankind, even foreſtallers, that ſome of thoſe in want of the article, have made purchaſes of the preſent crop at 32s. the Linlithgow boll.

Black cattle continue to ſell at a price that yields a fair profit both to the breeder and feeder; but the market is glutted with inferior ſheep, which ſell at prices that give profit to nobody, it is ſaid, except the butchers.——*November* 5.

NOTICES TO CORRESPONDENTS.

A COPY of '*Obſervations on the Formation and Management of Uſeful and Ornamental Planting, on the Theory and Practice of Landſcape Gardening, and on the New Mode of Embanking from the Sea*, by J. LOUDON *Landſcape Gardener, Planner, &c. No.* 4. *Chiſwell-Street, Bedford-Row, London, and No.* 7. *Leith Terrace, Edinburgh*,' has been received. This ingenious and amuſing performance ſhall be reviewed as early as poſſible.

We are ſorry that ſeveral reviews of agricultural publications have lain ſo long with us. If an apology is neceſſary, the beſt will be gathered from the fact, viz. that ſuch a quantity of what may be called temporary materials has conſtantly been ſent us, as rendered it out of our power to overtake thoſe of a more permanent deſcription. In our next we ſhall try to pay off ſome of our outſtanding arrears, particularly thoſe due to the reviewers of Cumberland and Weſtmoreland ſurveys.

We are honoured with LORD SOMERVILLE'S communication on the working of Oxen, which ſhall be ſubmitted to the conſideration of our readers. In the mean time, we are free to ſay, that the particulars now ſtated by his Lordſhip are more ſatisfactory than any thing hitherto ſent us on that important ſubject.

Mr HEADRICK'S valuable eſſay *on the Analyſis of Limeſtone* is an acceptable communication. This gentleman will always be a welcome gueſt at our board, ſeeing that in him ſcience is conjoined with obſervation and experience. For this, and former favours, he will pleaſe accept of our ſincere thanks.

The '*Leading Queries on Agriculture*, &c.' ſent us ſome time ago, will appear without fail. We delayed this paper on purpoſe, till the next volume, truſting it will create ſome diſcuſſion among our correſpondents. Another paper from the ſame ſource is under conſideration.

Mr HAY'S '*Thoughts on the Agricultural State of the Country, and on the New Corn Bill*, ſhall alſo appear in our next Number. We are deſirous of entertaining much reſpect for the ſentiments of this gentleman on practical matters, though apprehenſive that ſeveral of his obſervations at this time will not be generally acceptable. However, he ſhall have a fair hearing.

Mr T. B.'s eſſay *on the Eaſt Lothian Mode of Cropping* is very ſatisfactory to us. We muſt doubt, however, whether paſture graſs will ever make a conſiderable figure in that diſtrict, at leaſt ſo long as its increaſe is oppoſed by local circumſtances. Abſtractedly ſpeaking, we are not diſpoſed to place much faith in the intrinſic merits of any rotation, being ſatisfied that every thing depends upon the way and manner in which the

the feveral operations are executed. The other favour of this correfpondent, *on the Enclofing of Land*, fhall not be neglected.

The gentleman who fent us part of an eſſay '*on the Neceſſity and Advantage of Farmers underſtanding the proper Cultivation of a Kitchen Garden*,' is reſpectfully requeſted to tranſmit the remainder, to which every attention will be paid. When it is received, we will be enabled to correſpond with him on the ſubject mentioned in his private letter.

An anſwer to the query, '*On the Method of Making Capons*,' has come to hand. We ſhall do ourſelves the pleaſure of writing the gentleman who obligingly favoured us with the anſwer, concerning the other matters which he mentions.

The *Fifeſhire Ploughman* proves to be a clever fellow. With a little dreſſing, he will make a reſpectable figure.

A great variety of other papers are come to hand, to which particular attention will alſo be paid.

No. XXI. will be Publiſhed on Monday, 10th February 1805.

ERRATA IN THIS NUMBER.

Page 403, 3d line from top, *dele* one of the aſteriſks after the letter *J*.
P. 433, firſt line at top, for *dear*, read deer.

INDEX

TO

VOLUME FIFTH.

A

Aberdeen quarterly reports, 235, 379, 478.
Agriculture, account of the practice of it in the Netherlands, 311.
Agricultural publications, review of, 208 *et seq.* 353 *et seq.*
Agricultural intelligence, 93 *et seq.* 226 *et seq.* 368 *et seq.* 475 *et seq.*
Anecdotes concerning farming in East Lothian, 387.
Annandale, letter from a farmer in, 99.
Annandale (Upper), letter of intelligence from a gentleman there, 483.
Ayrshire, husbandry of, explained, 73. Improvements thereupon recommended, 79.
——— letter of intelligence from, 481.
Auchencreath, farm of, mode of drainage practised there, 274.

B

Bamborough-shire breed of sheep; comparative remarks betwixt them and the Leicesters, 455.
Bamffshire quarterly reports, 101, 231, 482.
Barley, English and Scots, difference betwixt the value of, 53.
——— considered to be the best crop with which grass seeds can be sown, 282.
Bedford, (Duke of) elegy to his memory, 444.
Berwickshire drill turnip husbandry, account of, by Mr Low at Woodend, 466.
——— quarterly reports, 236, 381, 487.
Black Spald, a disorder incidental to calves, mode of curing it, 297. Considered to be the *quarter-ill* of other districts, ib.
Boswell, George, Esq., letter of intelligence from, 114.
Broom, thoughts on the best way of extirpating it, 285.
Buchan Crofter, queries by, 203.

C

Caithness, statement of various measures carried on there in the year 1803, calculated for the improvement of, 1.
Call, Sir John, Bart. his theory concerning smut in wheat, 34.
Calves, method of curing them of the black spald, 297.
Cambridgeshire, fen husbandry of, explained, 36. The explanation said to be incorrect, 289.
Capons, information requested concerning, 190.
Cardiff common, improvements made on, 117.
Cavan statistical survey, review of, 219.
Cockburn, John, Esq., sketch of the various improvements introduced by him, with his portrait, 129.
——— original letter from him to Alexander Wight, one of his tenants, 439.

Commons in Caithneſs, improvement of, 4.
Coleſeed, value of in Cambridgeſhire, 37 ; ſaid to be exaggerated, 289.
Corn, drilling of it making rapid progreſs in Berwickſhire, 16.
Corn Laws, obſervations on the principles which ought to direct their formation, 332.
Corn Trade, report of the committee appointed by the Houſe of Commons to conſider the preſent ſtate of it, 334.
Corn Bill, (new) account of, 374.
Correſpondents, notices to, 128, 250, 386, 506.
Cræſinus, farmer, account of his enchantments, 327.
Crops, a judicious rotation of them deſcribed, 279.

D

Dempſter, George, Eſq., letter of intelligence from, 493.
Dirleton, eſtate of, formerly paid a very heavy rent in kind, 391.
Diſtillation, experiments made in, to aſcertain the comparative value of Engliſh and Scots barley, 68.
Dorſetſhire, letters of intelligence from, 382, 495.
Drainage, ſheep paſture much improved thereby, 432. Much judgement required to do it advantageouſly, ib.
Draining, general obſervations on its utility, 273. An effectual mode of executing it pointed out, 274.
Drilling of corn, the practice upon the increaſe in Berwickſhire, 16.
Dublin, letter from a gentleman in, 125.
Ducket's ſkim-plough, remarks thereupon, 473.
Dumbartonſhire, letter of intelligence from a farmer there, 101.
Dumfries quarterly reports, 105, 375, 486.
Dung, farm-yard, thoughts on the management of, 38.
——, thoughts on the application of, 161. Ought not to be laid on too thick, 162. Should be ſpread with accuracy, 163. Uſed with moſt advantage upon clay ſoils, when under ſummer fallow, 167.

E

Elegy on the late Duke of Bedford, 444.
Eſſex quarterly report, 120.

F

Falkirk, letters of intelligence from, 102, 229, 377, 479.
Farming ſociety, Ormiſton, liſt of the members of, 142.
Farm management betwixt the river Tyne in Northumberland and the frith of Forth, obſervations upon, 261.
Farming ſchools, propoſal for eſtabliſhing, 330.
Farmers, comparative view of their preſent ſituation with what it was fifty years ago, 387.
Feeding byre, deſcription of one, with a figure, 200.
Fen huſbandry, attempts to introduce it into Caithneſs in 1803, 3. Cambridgeſhire ſyſtem explained, 36.
Fiars of grain, liſts of, fixed in different counties, 241.
Fife quarterly reports, 111, 484.
Findlater (the Rev. Charles), his account of Peebles huſbandry vindicated, 85.

G

Gardiner, Dr, review of his Eſſays, 353.
Galloway, letters of intelligence from, 228, 478.
Gates, caſt iron work for the hanging and faſtening of them recommended, 83.
Glaſgow, letters of intelligence from, 110, 238, 380, 484.
———, letter from a gentleman there, deſcribing the injury done to his garden by worms, 374
Grain, annual ſtars of, in Eaſt Lothian, mode of aſcertaining deſcribed and animadverted upon, 197.
——, ſtars of, in different counties for crop 1803, 241.
—— reſerved for ſeed keeps beſt when dried with ſteam, 415.
——, thoughts on the quantity required to ſeed a Scotch acre of land, 425. Thin ſowing in general recommended, 426. Obſervations on the crops of 1804, 454.
Graſs ſeeds moſt ſucceſsful when ſown among barley, 282.
Gray, Mr, of Bamborough, ſome account of his ſheep, 455.
Grey, Mr, honourable mention made of his improvements, 158.

H

Haddington (Earl of), comparative view of the ſtate of farming now and formerly, inſcribed to him, 387.
———— market, account of wheat ſold there from 2d November 1803 to 26th October 1804, 491.
Headrick, Mr, letter from him to Mr Low of Annfield concerning the analyzation of his limeſtone, 451.
Highland Society, remarks on their attempts to encourage potato huſbandry in the Highlands and Iſles, 414.
Hints to Agriculturiſts, review of, 212.
Hunter, Robert, Eſq. review of his Letter to the County of Haddington, 361.
Huſbandry, corn and graſs alternately, applauded, 264.

I

Improvements, ſtatement of thoſe introduced into Caithneſs in 1803, 1.
———— (ſketch of) introduced by John Cockburn, Eſq. of Ormiſton, 129.
————, thoughts on certain obſtacles to, 151.
Incloſing of corn land conſidered to be unneceſſary, 464.
Inverneſsſhire quarterly reports, 107, 382, 489.
Inverneſs, letters of intelligence from, 236, 376.
Intelligence, agricultural, leading article of, 93, 226, 368, 475.

K

Kelſo, letters from a farmer near, 109, 233, 488.
Kincardineſhire quarterly report, 379.

L

Labour, hints reſpecting the price of, in the Highlands of Scotland, 45.
——— thoughts concerning regulating the value of, by Sir George S. Mackenzie, Bart. 205. Anſwered, 251.
——— the impropriety of attempting to regulate its value demonſtrated, 251.

Labour, reply by Sir George S. Mackenzie to Pol-Œconomicus's letter on this fubject, 435. Note thereon by Conductor, 438.
Lanark, Upper Ward, quarterly reports of, 234 381.
Land, fome injudicious methods of fetting it reprobated, 159. Conductor's remarks thereupon, 160.
—— none but fuch as is of the beft quality capable of ftanding a four courfe fhift for a length of time, 265.
—— query refpecting the advantage of enclofing it in certain fituations, 292. Thoughts on the quantity proper for feeding a Scotch acre of, 425.
Lauderdale, Earl of, obfervations on his Inquiry into the Nature and Origin of Public Wealth, 365.
Leafes, obfervations on the fhortnefs and total want of them in fome parts of Scotland, 404.
Leiceſter, or improved breed of fheep, comparative remarks on difference betwixt them and the Bamboroughfhire breed, 455.
Letters from John Cockburn Efq. to Alexander Wight, one of his tenants, 135. 439.
—— to a Noble Lord, review of, 208.
Lime, method of afcertaining the quality of, 27.
—— thoughts on the beft mode of analyzing it, by Sir George S. Mackenzie, 265. Unlefs analyzed by a fkilful chemift, its real value cannot be afcertained, 266.
—— letter from Mr Low of Annfield concerning the analyzation of, 451. Some of Sir G. S. Mackenzie's obfervations confidered to be frivolous, 452.
Limeſtone, obfervations on afcertaining the quality of, 272. Magnefian limeftone eafily diftinguifhed from that which is purely calcareous, 273,
Lincolnſhire quarterly report, 119.
London, letters of intelligence from, 125. 249. 384. 499.
Lothian, Mid, quarterly reports, 108. 239, 378, 505.
—— Eaft, quarterly reports, 111, 240. 381. 490.
—— mode of ftriking the fiars of grain therein examined, 197.
—— farmers there poffeffed of greater capital and fkill than in other counties, 391.
Low, Mr, (Woodend) his account of the Berwick turnip hufbandry, 466.
Lynn, letter of intelligence from, 499.

M

Mackenzie, Sir George, Bart. letter from, concerning the value of labour in the Highlands, 45.
——, thoughts by, on regulating the price of labour, 205. On the analyzation of lime, 265. On the fmut upon wheat, 267. On the analyzation of marl, 269.
Malt, general view of the taxes on, by Dr Skene Keith, 49.
Malt-tax, excerpts from the report of the committee appointed to inveftigate that fubject, 342. Dr Skene Keith's evidence before the committee, 346.

Malt, pale, beſt produced by being dried with ſteam, 414.
Manure, thoughts concerning the management of, 38. Cutting grain crops low recommended as a good mode of increaſing it, 39.
Markets, Glaſgow, ſtate of, 110, 239, 380, 484.
———, London, ſtate of, 125, 249, 385, 500.
———, Lynn, ſtate of, 499.
Marl, experiments in the analyzation of, by Sir George S. Mackenzie, 269.
Mechanics in Scotland, thoughts on their general conduct, 433.
Meteorology, Liverpool, 127. 503.
Moorhouſe, Mr, the firſt Engliſhman who purchaſed cattle in the Hebrides, 393.
Morayſhire quarterly reports, 379. 482.
Munchauſen (Baron) upon the redundancies of nature, 184.

N

Nature, reaſonings and experiments upon the redundancies to be found in, 185.
Netherlands, on the agriculture of, 311.
Norfolk quarterly reports, 122, 246, 385.
——— ſtatement of expence attending the culture of corn there in 1790 and 1804, preſented to the Houſe of Commons, 338. Obſervations thereon, 341. Mode of pickling wheat there elucidated, 442.
Northumberland quarterly reports, 124, 247, 383.

O

Oak, advantages of planting it for undergrowth, 323.
Oats, on the utility of bruiſing them with a machine for horſe feed, 425. Vegetate after paſſing through horſes when uſed whole, *ib.*
Ormiſton (eſtate of), account of improvements introduced by John Cockburn Eſq. 131.
Oſiers and willows, obſervations on planting, 182.
Oxen, their comparative utility with horſes for draught diſcuſſed, 179. Preference given to them, 181. Further obſervations on the ſame ſubject, 296.

P

Paring and burning, trials made thereof in Caithneſs, 3.
Parker, Mr, letter from, concerning the uſe of caſt-iron work, in hanging and faſtening gates, 83.
Parſley, on its uſe as food for horſes and cattle, 453. Conſidered to be a ſtrong antiſeptic, *ib.*
Peas, advantage of drilling them, 18.
Pebbles ſurvey, account of, by the monthly reviewer, reviewed, 85.
Perth, letter from a gentleman near, 108, 375, 493.
Pickling of wheat, as a preventative againſt ſmut, thought unneceſſary, 35. Contradicted by the Conductor, 36.
Pitt (Mr William) letter from, concerning the Staffordſhire plough, 29.
Pol-Economicus, conſiderations by him on the impropriety of attempting to regulate the value of labour, 251. Reply by Sir George S. Mackenzie, 435.

Plantations, obſervations on the beſt mode of making them, 323.
Poor-laws in Scotland, their advantages explained, 20.
——— remarks upon them, 457. Stenting or aſſeſſing for the ſupport of the poor thought neceſſary, *ib.* Parochial friendly ſocieties recommended, 460.
——— (England), curſory remarks thereon, 461.
Potatoes, obſervations on the beſt and moſt economical method of boiling them, 191, 503.
Potato huſbandry, advantages of, 192. Conductors remark thereupon, 196.
Potatoes, ſcooping the ſeed ſucceſsfully practiſed, 287.
——— introduced into Britain by Sir John Hawkins, 395. Not more than twenty years ſince they were commonly cultivated in the fields, *ib.* Obſervations on their cultivation in the Highlands, 413.
Potato, an excellent plant for bringing friable moſs or muir into cultivation, 417.
Property-tax bill, its confuſion and inaccuracy pointed out, 96.
——— (Commiſſioners of), an attempt made to remove them in Eaſt Lothian, 241. Review of Mr Hunter's letter on that ſubject, 361.

Q

Queries by a Buchan Crofter, 203. On the advantage of encloſing land, 292. Anſwered by Lieutenant Colonel Vavaſour, 464.

R

Review of agricultural publications. Of *letters* to a Noble Lord on the manufactures, agriculture, and apparent proſperity of Scotland, 208. Of *hints* to agriculturiſts, 212. Of the *ſtatiſtical ſurvey of the county of Cavan*, 219. Of *Dr Gardiner's eſſays*, 353. Of *Mr Hunter's letter* to the county of Haddington, 361.
Report of the committee appointed to conſider the corn-trade, 334.
Ridges, conſiderations on ſtraighting them, 447. Difficult to execute upon wet ſoils, but eaſily accompliſhed on dry ones, 448.
Roads and harbours in Caithneſs, the neceſſity of making new ones pointed out, 7.
Road acts, thoughts concerning them, 283.
Roſsſhire quarterly reports, 104, 232, 480.
Rotation of crops, an important part of huſbandry, 279. Some judicious rotations deſcribed, 280.
Ruta-baga, culture of, increaſing in Tweeddale, 15. Complaints as to the uncertainty of its growth, 17.
——— obſervations on the culture of, 200. Tranſplanting from the ſeed-bed recommended, 202. Inferior to yams as a ſuccedaneum for turnip, 204.
——— obſervations on the culture and uſe of, 421. Tranſplanting this root not thought advantageous, 422. The beſt article as ſpring food for ſtock of all kinds, 423. Horſes very fond of it, *ib.* 14,400 ſtone raiſed on three acres, 424.
Rye graſs, perennial, account of its diſcovery and propagation in Clydeſdale, 305.

S

Scotland, the ſtate of, abject and miſerable at the beginning of the 18th century, 129.
——— on the preſent ſtate of the poor there, 457.
Schools for teaching practical agriculture, advantages of, 330.
Scrabſter, plan for eſtabliſhing a royal colony at, 11.
Selkirkſhire, ſtate of huſbandry in, 97.
Selkirk quarterly reports, 233, 478.
Services, perſonal and predial, impolicy of impoſing them upon the tenantry of Scotland, 147. Remarks by Conductor thereupon, 149.
Sheep-farming in Caithneſs, improvements made in, 5.
Sheep, on the management of, at Cauterets in France, 170. Account of the ſheep pox, 175.
—— comparative trial of different breeds, 307. Preference given to the black-faced breed, 310.
—— obſervations upon ſoils proper for rearing them, 429.
Skene Keith, Dr, general view of the taxes on malt, by, 49. His evidence before the Houſe of Commons, 346.
Skim-plough invented by Mr Ducket, remarks thereupon, 474.
Smut of wheat, thoughts concerning the cauſe of, 34.
—— Sir George S. Mackenzie's thoughts concerning the cauſe of it upon wheat, 268. May be diſcovered as ſoon as the ear forms, *ib.*
Soils, account of thoſe in the Cambridgeſhire fens, 290.
Staffordſhire plough, account of, with a figure, 29. Remarks thereupon by Mr Alexander Trotter, 32.
Steam, uſe of it in drying malt, grain, and potatoes, 413.
——— kilns, hints concerning, 417.
Steelyards for aſcertaining the power neceſſary to work a plough, where to be found, 473.
Stipends, augmentation of in victual objected to, where the teinds were valued in money, 47.
Swediſh turnip, remarks on the advantages of cultivating it, 421.

T

Thraſhing machines, improvements upon, pointed out, 19.
Anſwer to Arator's letters on that ſubject, 302. Conductor's note thereupon, 304. Reply from Arator, 418.
Trees, information requeſted concerning the moſt expeditious way of taking up the roots of, 207. An anſwer given, 327.
Trotter, Mr Alexander, Remarks by, on the Staffordſhire plough, 32.
Turnip, Swediſh, much cultivated in the pariſh of Newlands, 15. Advantages of cultivating it, 421.
Turnip, common, ſtoring of them a practice prevalent in Tweeddale, 15. Advantages of the practice deſcribed, 293.
Turnips, cultivation of them has added much to the value of certain ſoils, 396. Always ſown in drills in Scotland, ib.
Turnip huſbandry, Mr Low's account of the Berwickſhire ſyſtem, 466.
Turnpike roads, obſervations on their management, 283. Ought to be ſupported out of the funds levied at the toll-bars erected thereupon, ib. Diſtinguiſhed from the by or croſs-roads, 284.

Tweeddale, retrospective notices of agriculture in, 13.
Tweeddale quarterly reports, 100. 237. 488.

V

Vavasour (Lieutenant-Colonel) his observations on enclosing corn land, 464.

W

Wales, letters from a farmer in, 117. 243. 383. 496.
Walls and Sandness in Zetland, extract from the statistical account of, 96.
Waste land, improvement made thereupon in Caithness during the year 1803, 2.
———— thoughts on the improvement of, 450. Proprietors ought to assist in making such improvements, ib.
Wheat, thoughts concerning the cause of smut upon, 34.
———, Sir George S. Mackenzie's thoughts on the cause of smut upon, 267. Considered to be similar to the cancer in the human body, 268.
———, utility of steeping it before sowing, 286. Sea-water recommended for this purpose, 287.
———, advantage of using hot lime in pickling it for seed, 442. when properly steeped and limed, is secured from smut, 443.
Wheats, account of the quantity sold in Haddington market, from 2d December 1803 to October 26th 1804, 491.
Wight (Robert) in Murrays, the first farmer in Scotland who enclosed by ditch and hedge at his own expence, 133.
——— (Alexander) letters to him from John Cockburn Esq. 135. 439.
Willows and oziers, observations on the planting of, 182.
Whins, a new method of extirpating them pointed out, 285.
Woods, advantage of making them for undergrowth, 323.

Y

Yams preferred to ruta baga as a succedaneum for turnips, 204.
Yorkshire quarterly reports, 121. 242. 384. 497.
———— (East Riding) letter of intelligence from, 245.
———— farmer, letter of intelligence from, 248.
———— retrospective view of rural affairs in that county for 1804, 498.

Z

Zetlanders, remarks upon their distresses, 95. The rural and political œconomy of the district hostile to improvement, 96. Extract from the statistical account of Walls and Sandness in confirmation thereof, ib.

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